

THE
GREAT
EXHIBITION



ILLUSTRATED

1851

K. B. DOWSLEY,
TROY, N. Y.

NO. 51

12

Pasencked to

by I. S. Bass.

to Kennedy & Durey,
for his steady attention
to business in

January 1st. 1850,

K.
N

209 1124 ~ZNO
London

£ 750

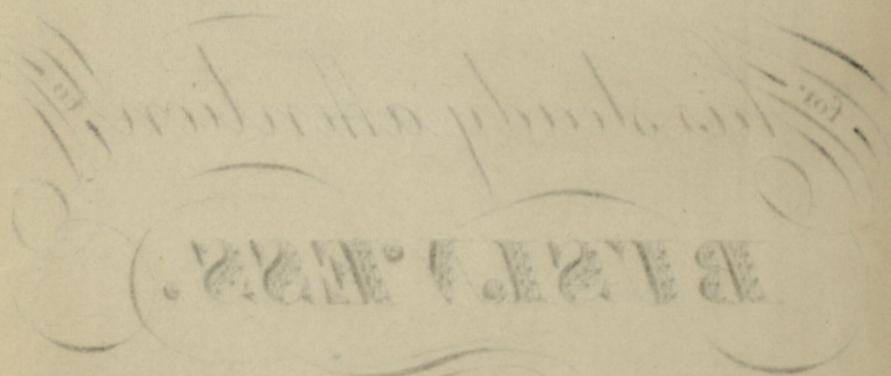
PRIESTLEY



EDWARD & CO. LTD.



PRINTERS AND PUBLISHERS.



PRESENTED



J. and S. ROSS

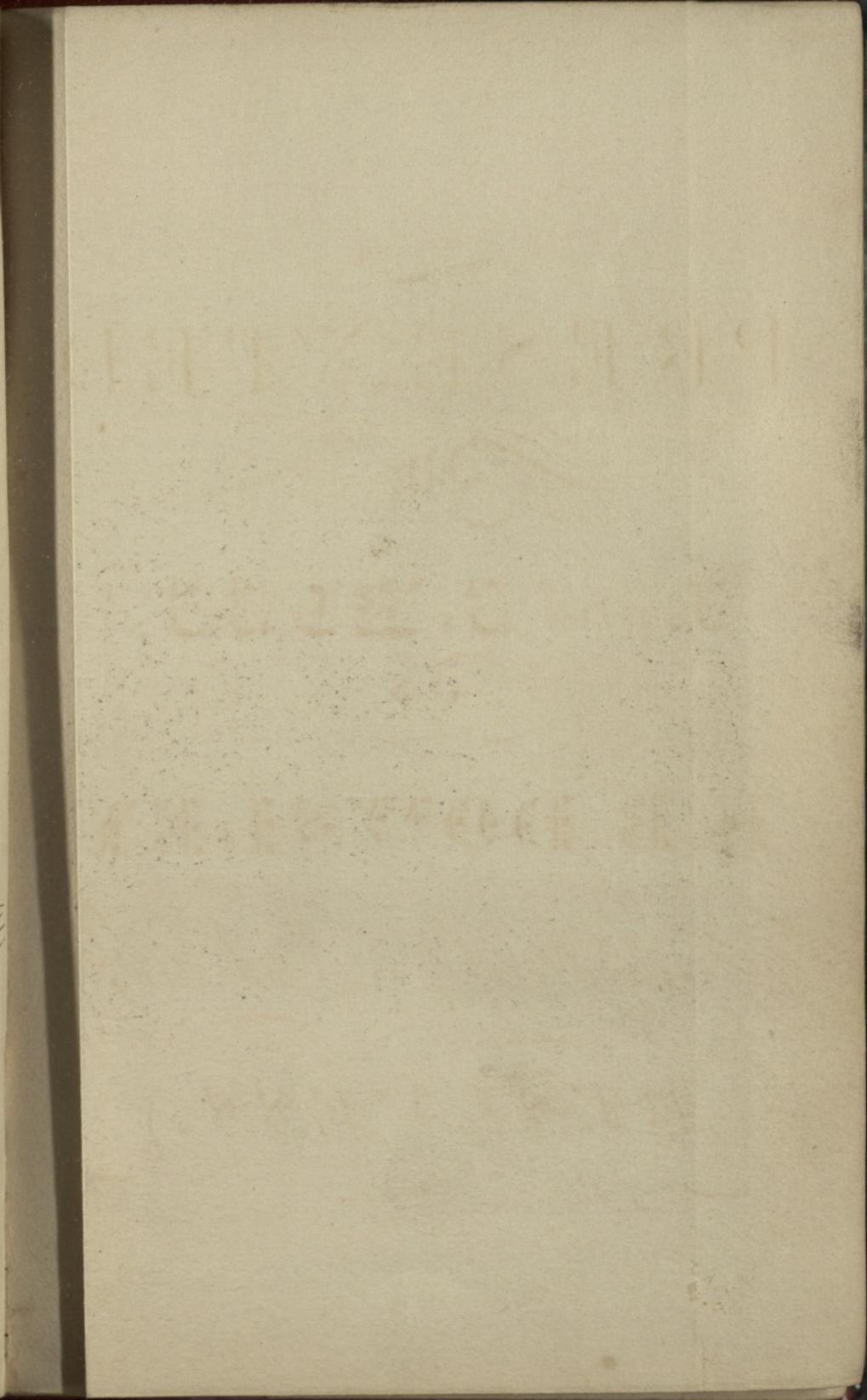


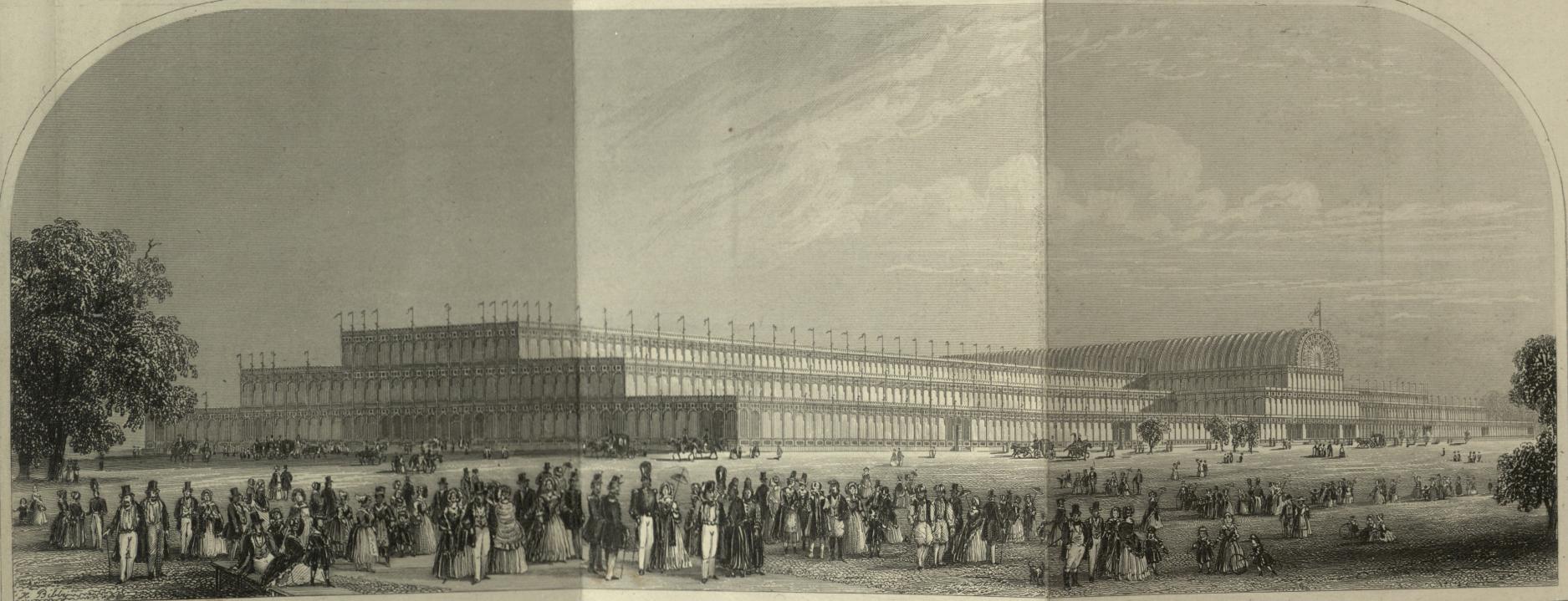
K.B. DOWSELEY

for

his steady attention,^{to}

BUSINESS.

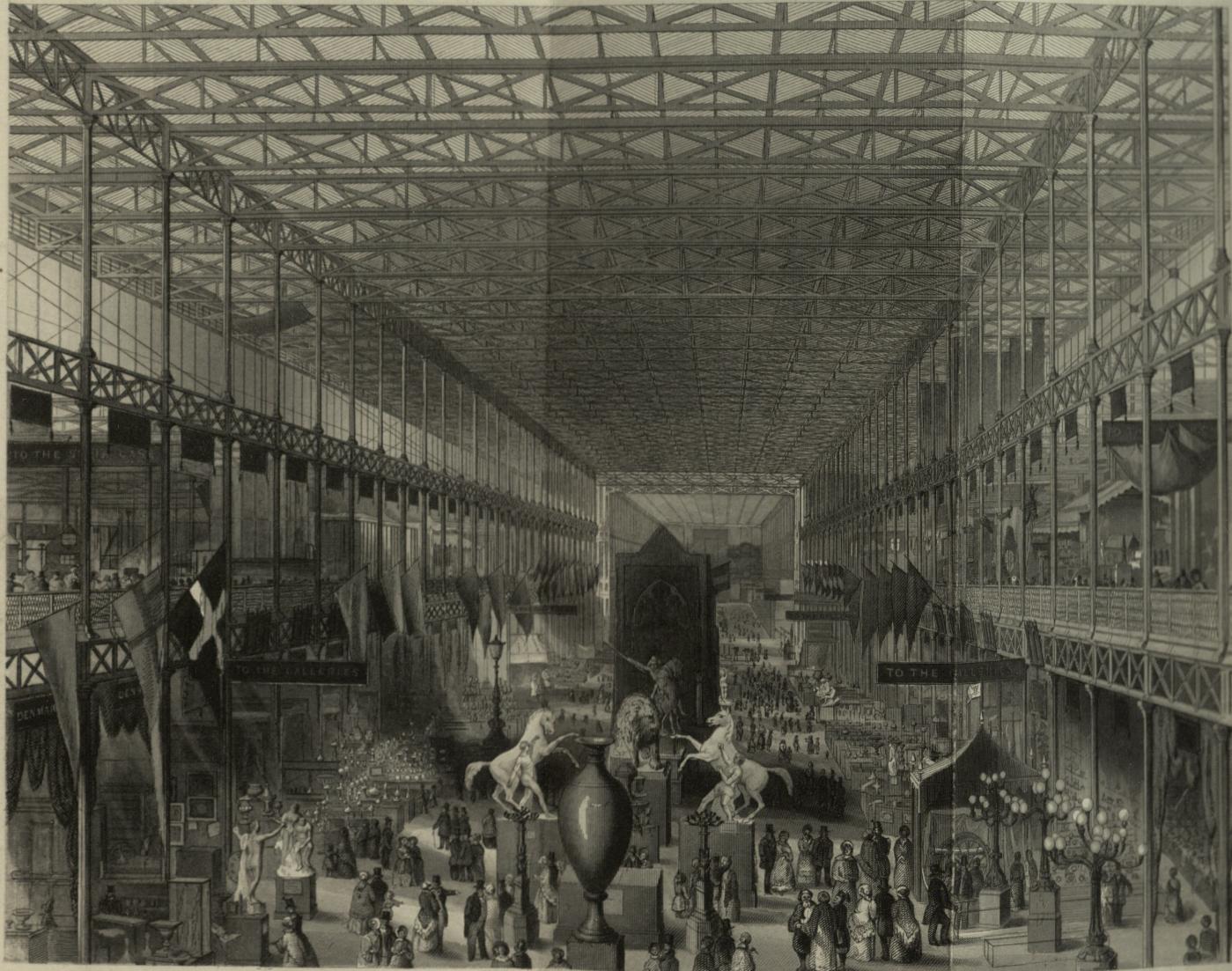




THE GREAT EXHIBITION
of the Industry of all Nations,
Opened by Her Majesty Queen Victoria.

MAY 1ST 1851.

JOHN TALLIS & CO
LONDON & NEW YORK



Engraved by T. Sherratt, from a Daguerreotype by Mayall.

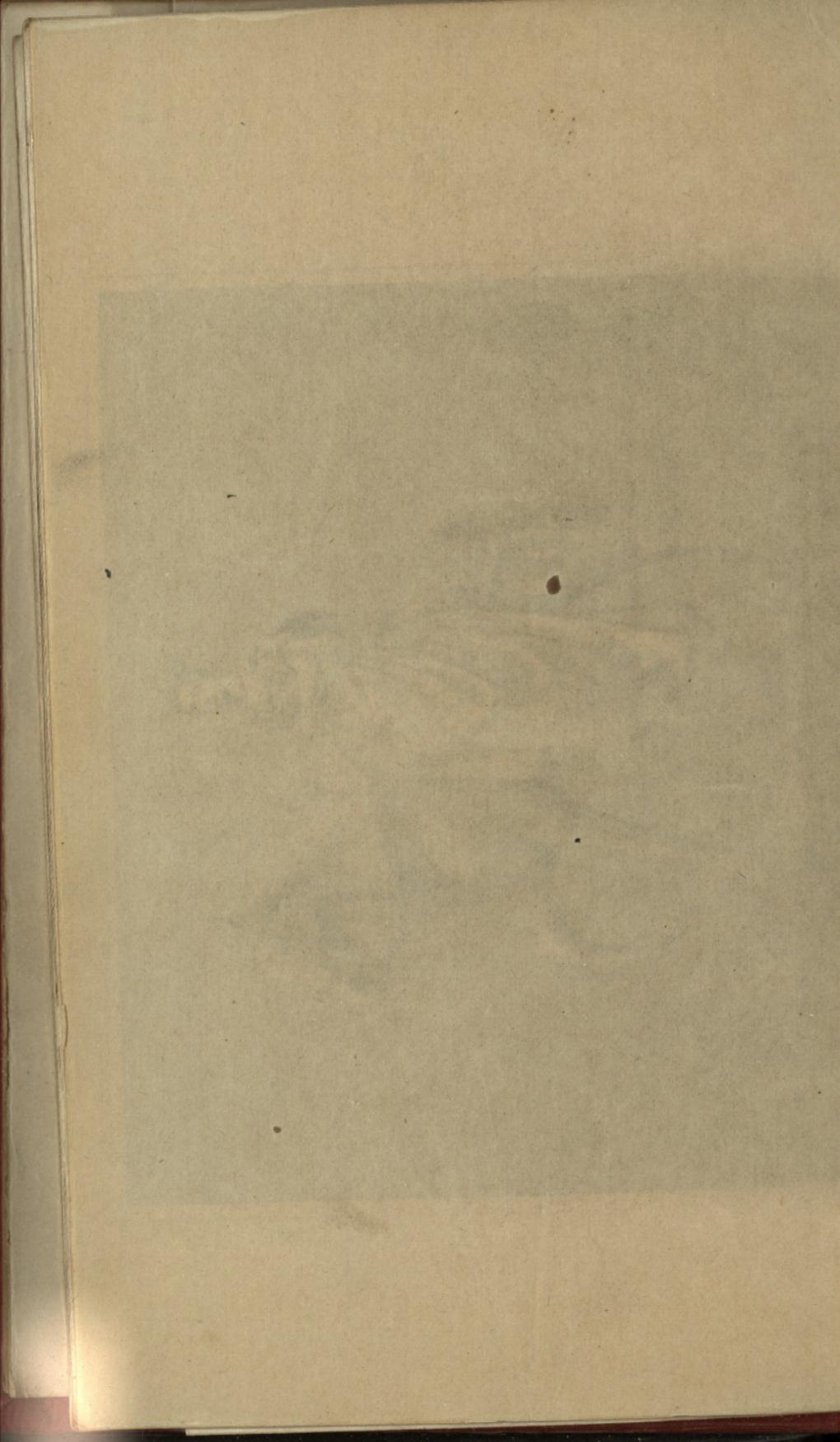
THE NAVE OF THE GREAT EXHIBITION.

LOOKING WEST.

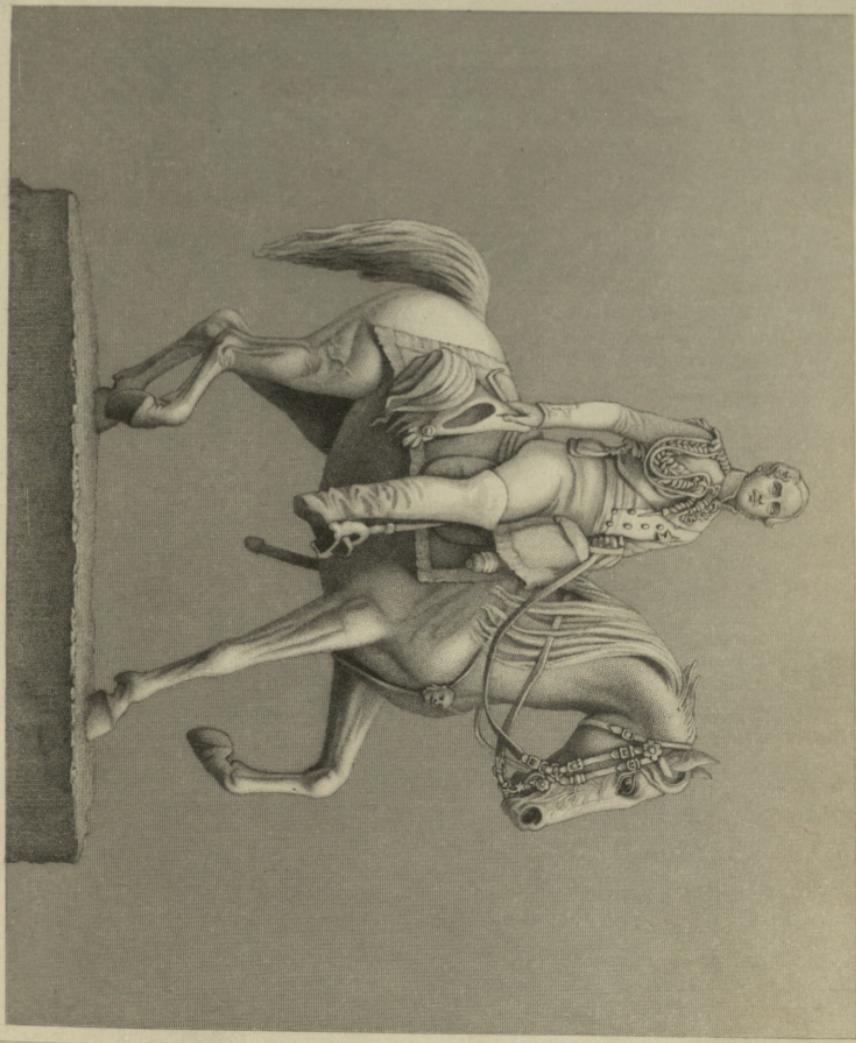
HER MOST GRACIOUS MAJESTY THE QUEEN.



HER MOST GRACIOUS MAJESTY THE QUEEN



HIS ROYAL HIGHNESS PRINCE ALBERT

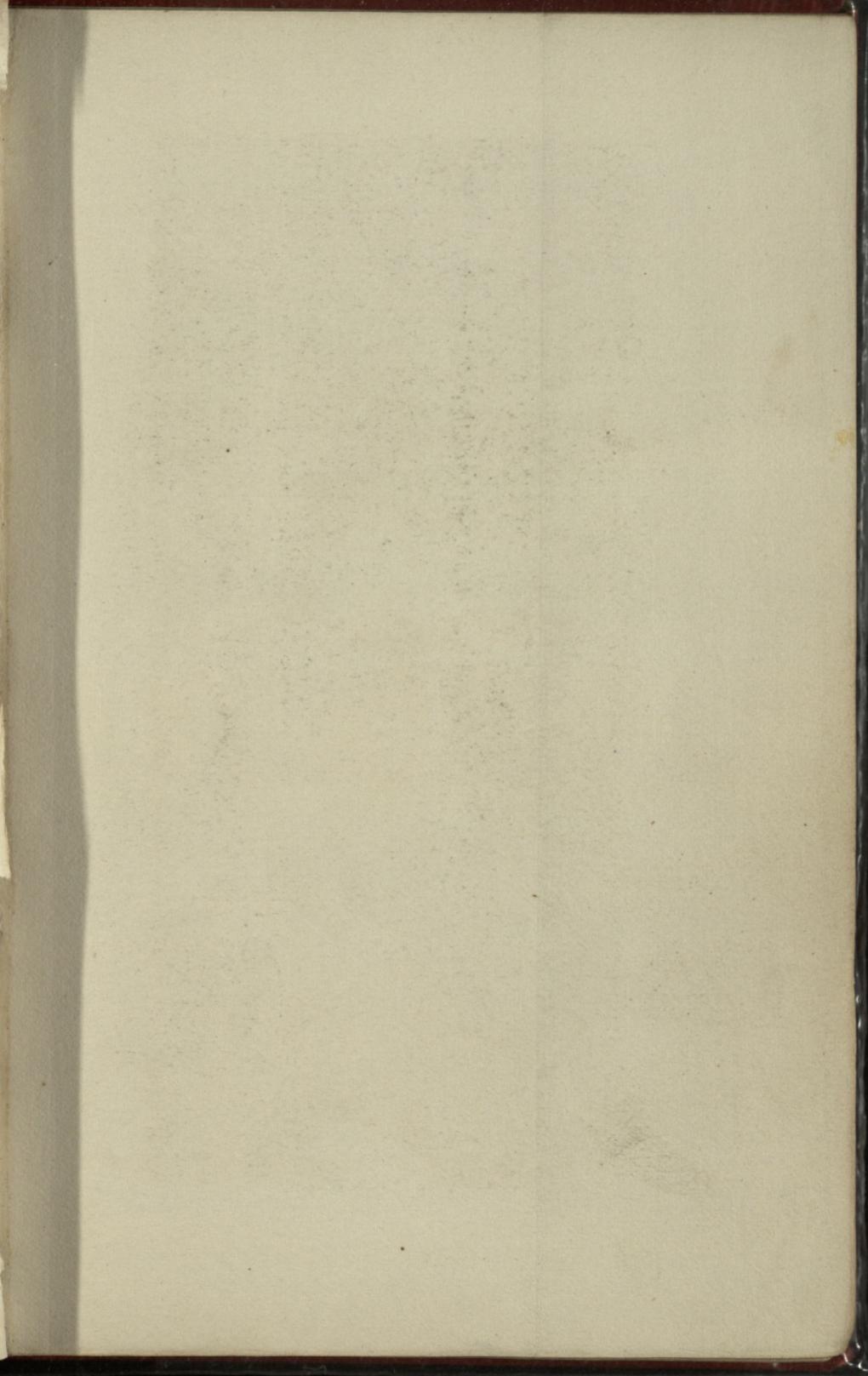




Engraved by Bittelstone, from a Daguerreotype by Mayall.

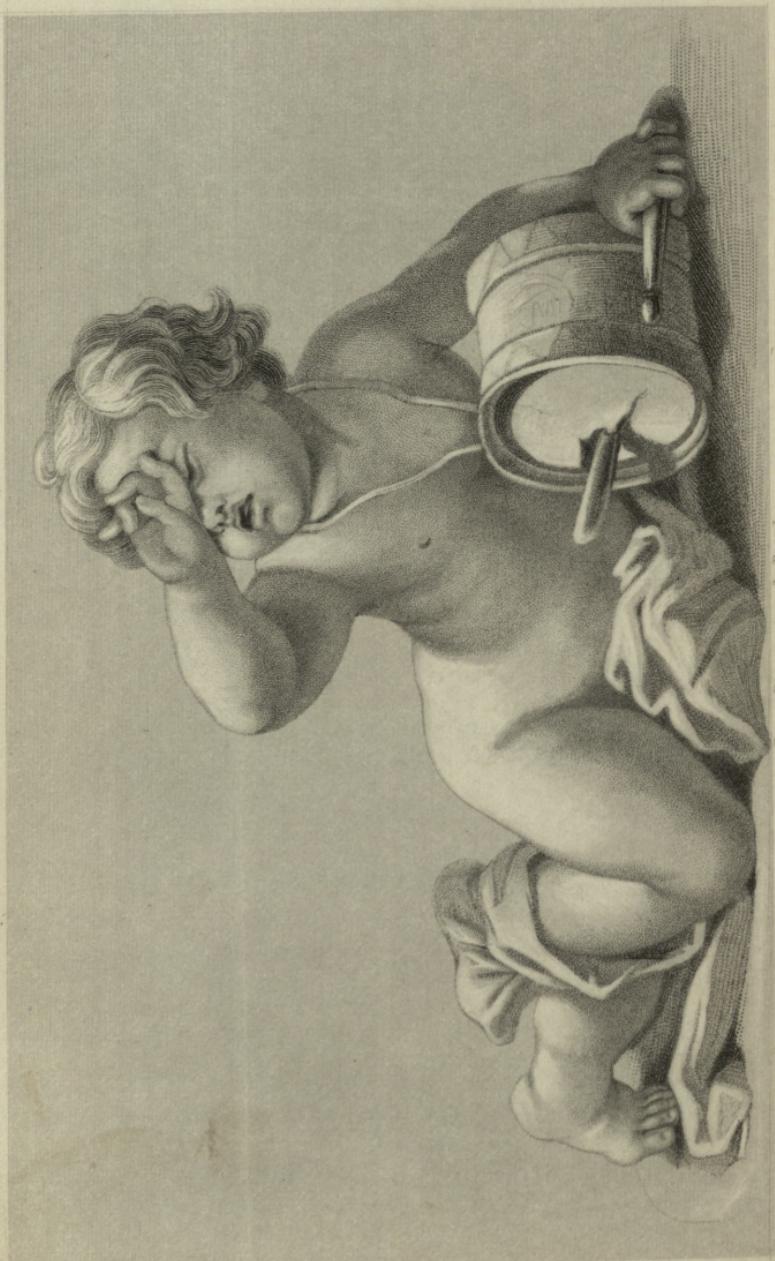
GREAT EXHIBITION.

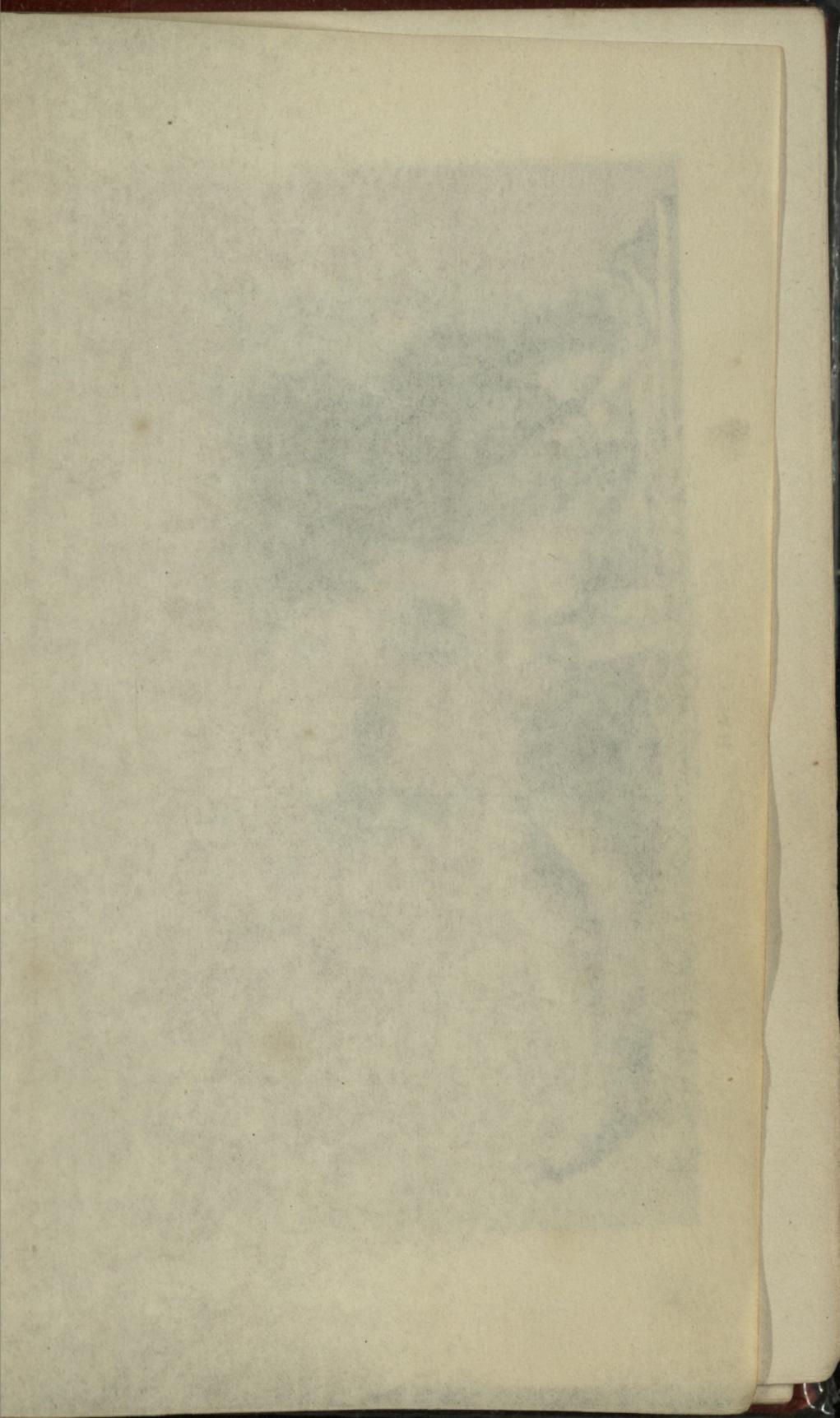
MAIN AVENUE



THE UNHAPPY CHILD.

From a Daguerreotype by Beard.







THE HAPPY CHILD.

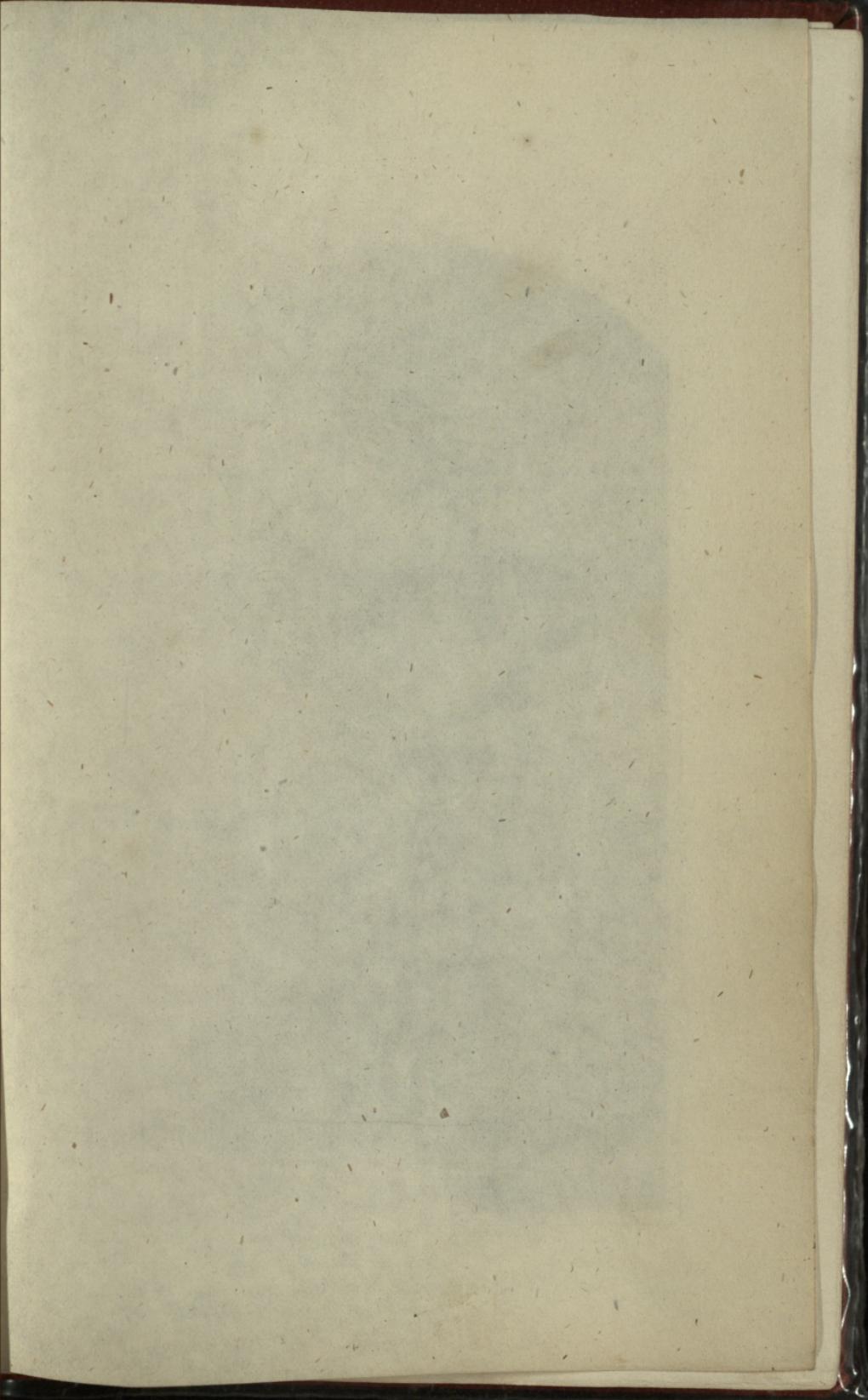
From a picture by Beard.

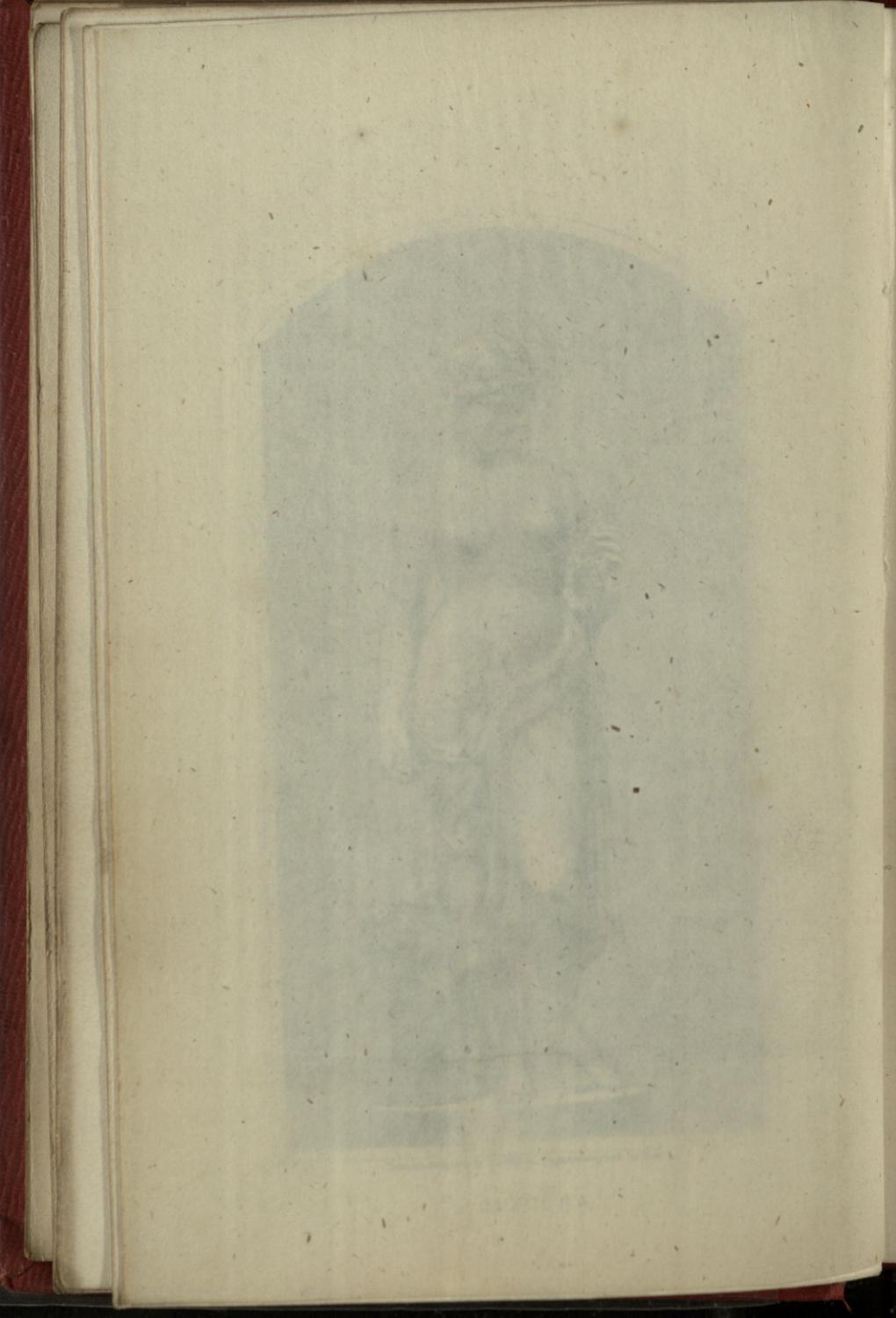




From the Original by H.J. Wyatt, Daguerreotyped by Beard.

GLYCERA.

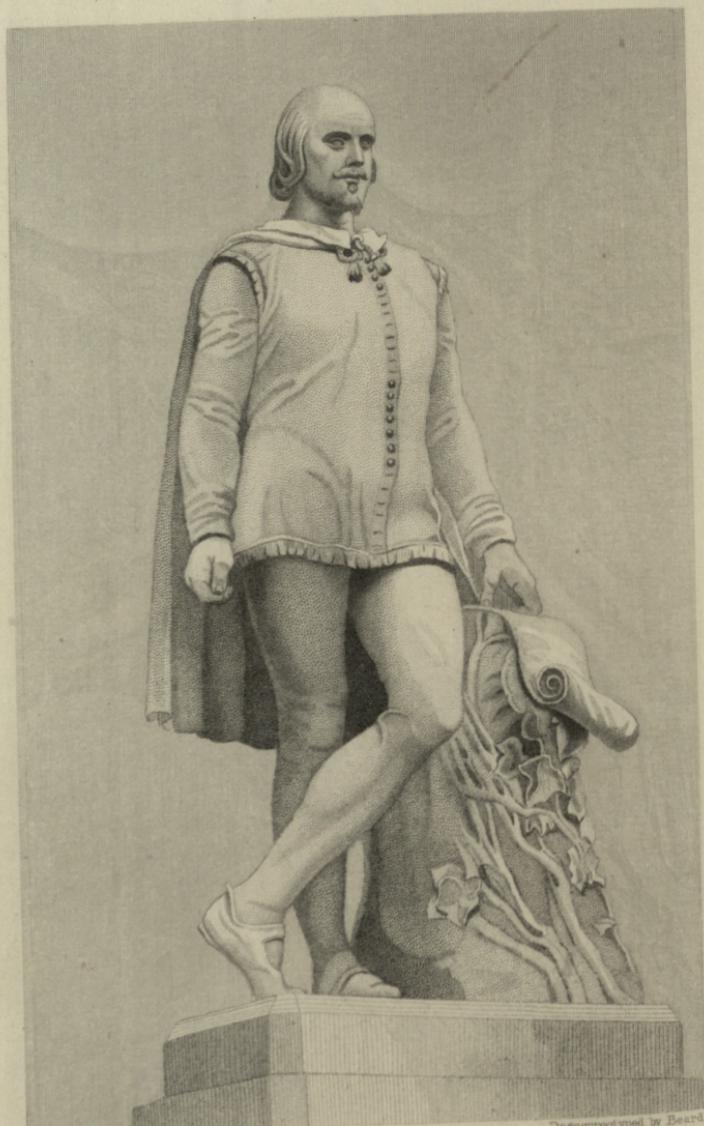






From the Original by R.J. Wyatt, Daguerreotyped by Beard.

A NYMPH.



J. Bell, Sculptor.

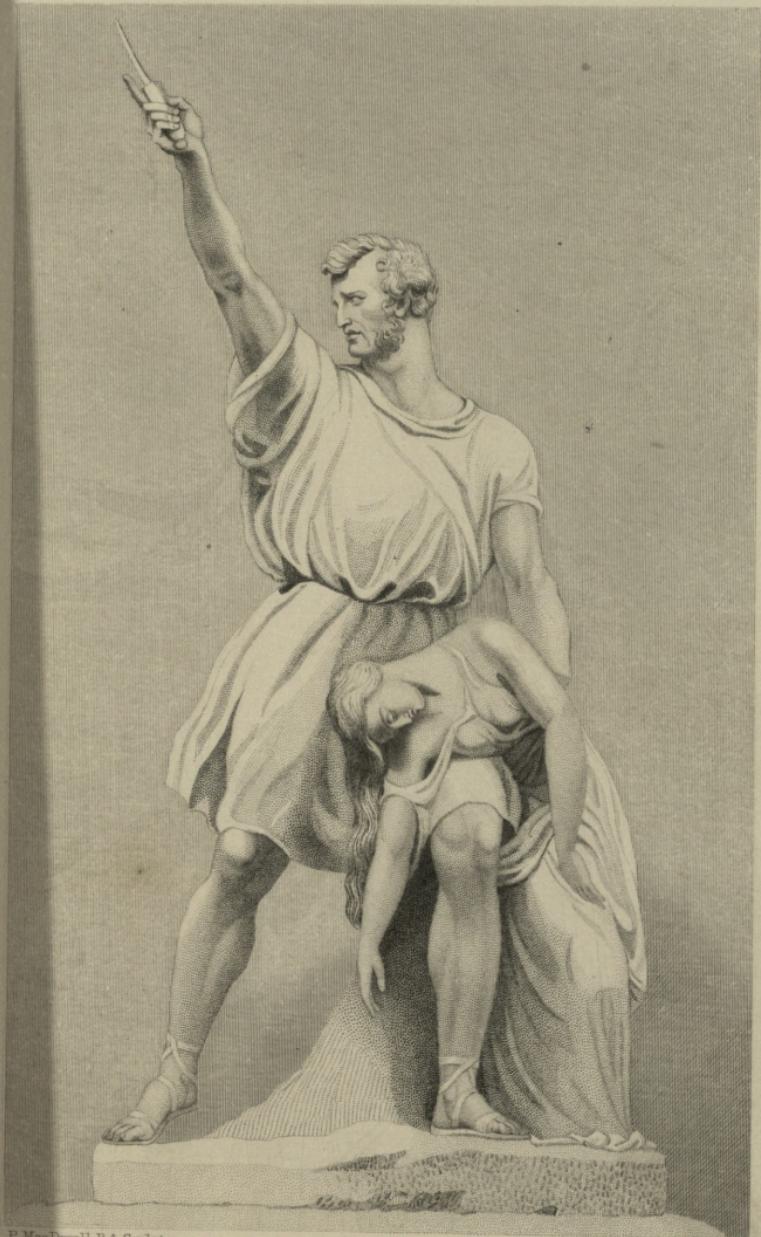
Dagner recopied by Beard.

SHAKSPERE.

THE DAUGHTER



SHAKESPEARE



P. MacDowell R.A. Sculptor.

Daguerreotyped by Beard.

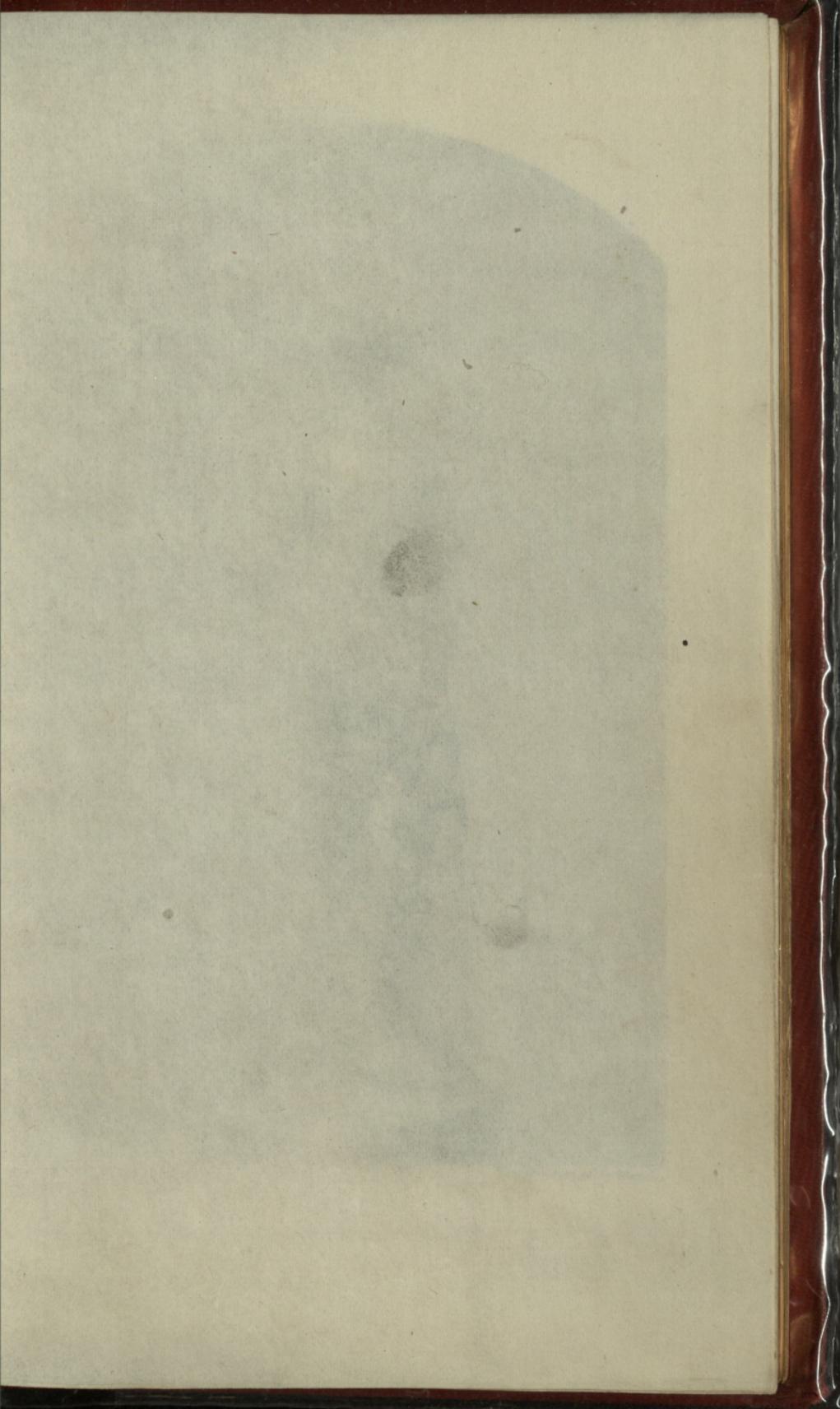
VIRGINIUS AND HIS DAUGHTER



Hiram Power, Sculptor.

Daguerreotyped by Mayall.

THE GREEK SLAVE.





THE GREEK SLAVE



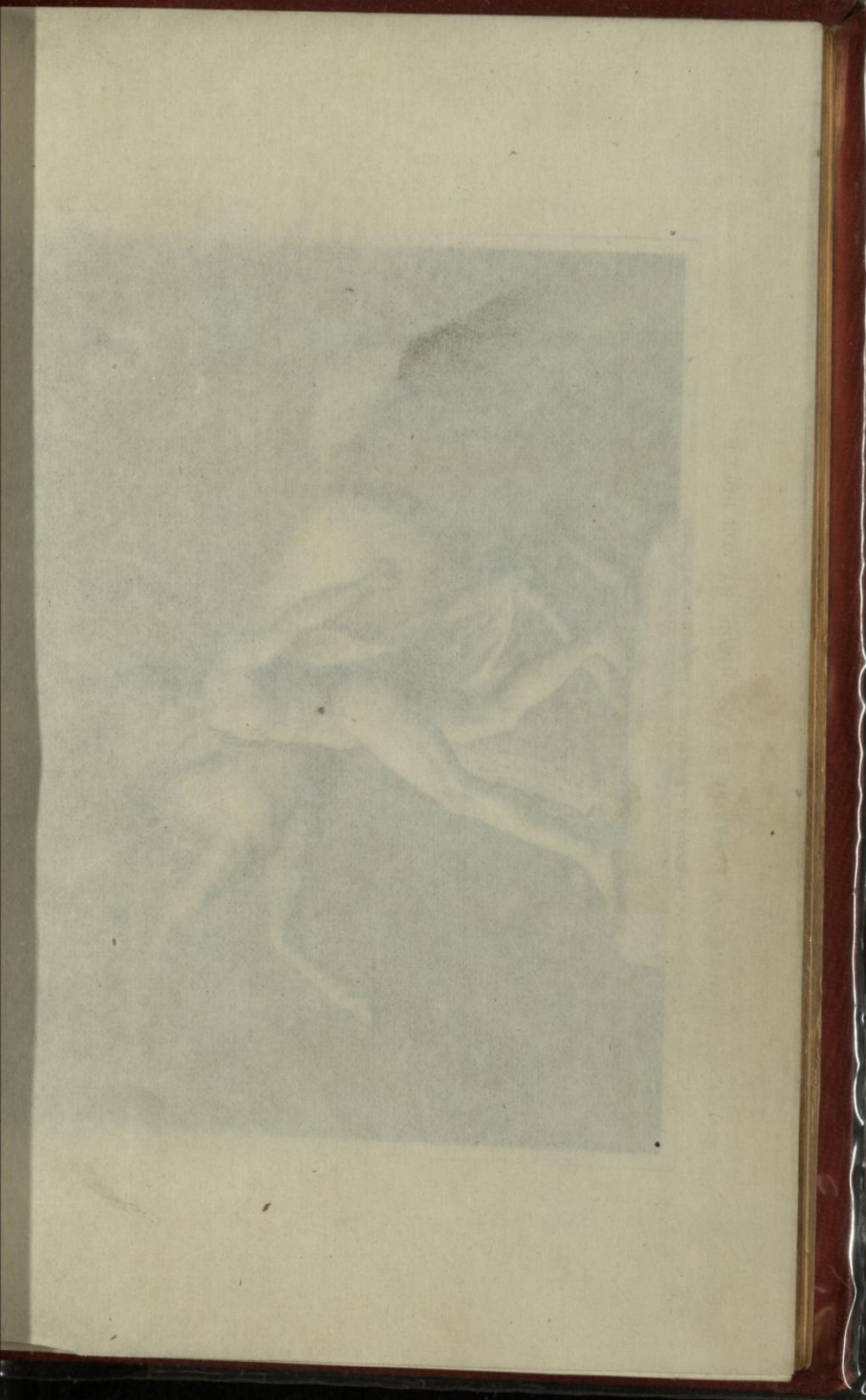
Hiram Power, Sculptor.

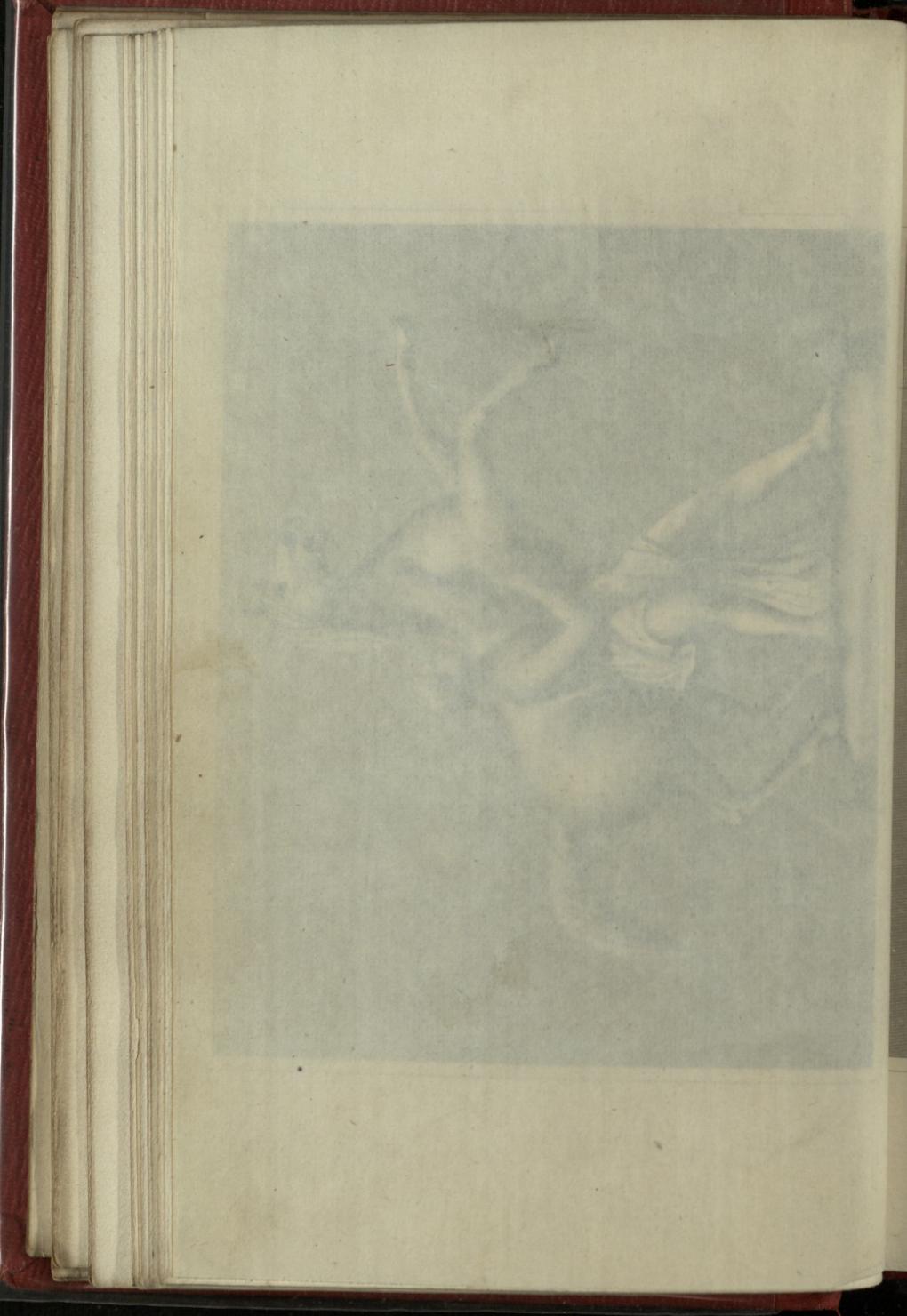
Daguerreotyped by Mayall.

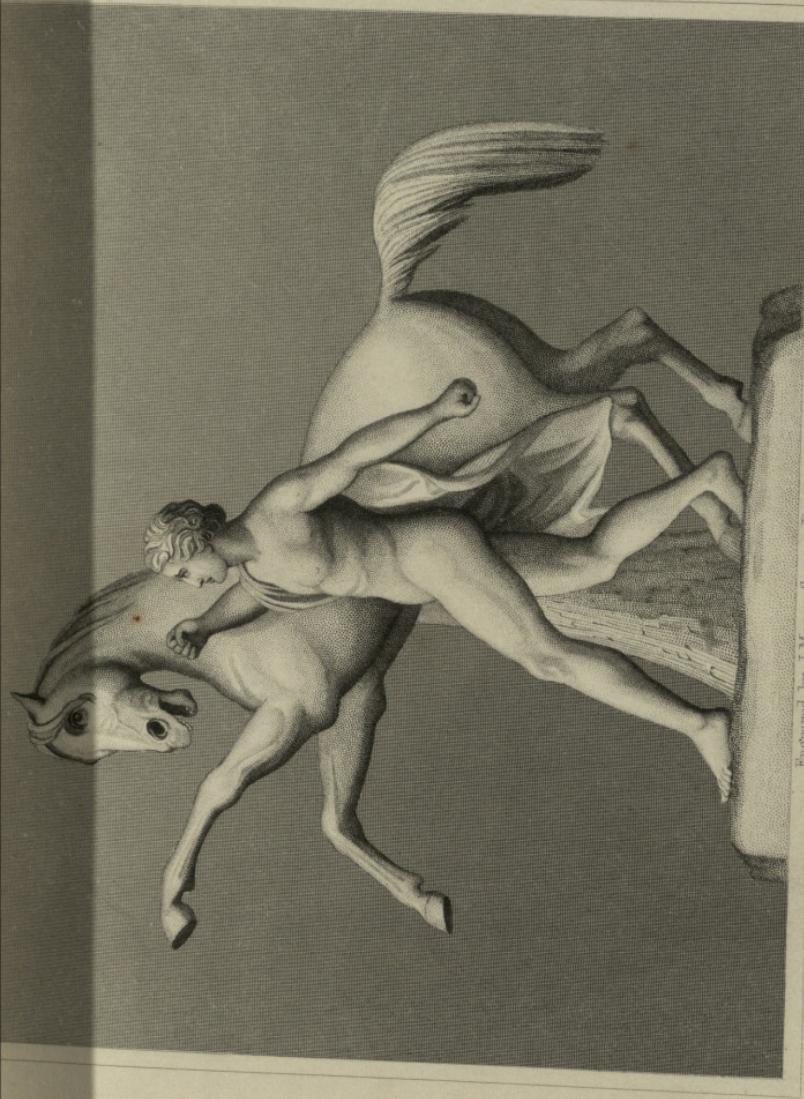
THE GREEK SLAVE.



Printed by J. Moore from a Lithograph by J. Beard.

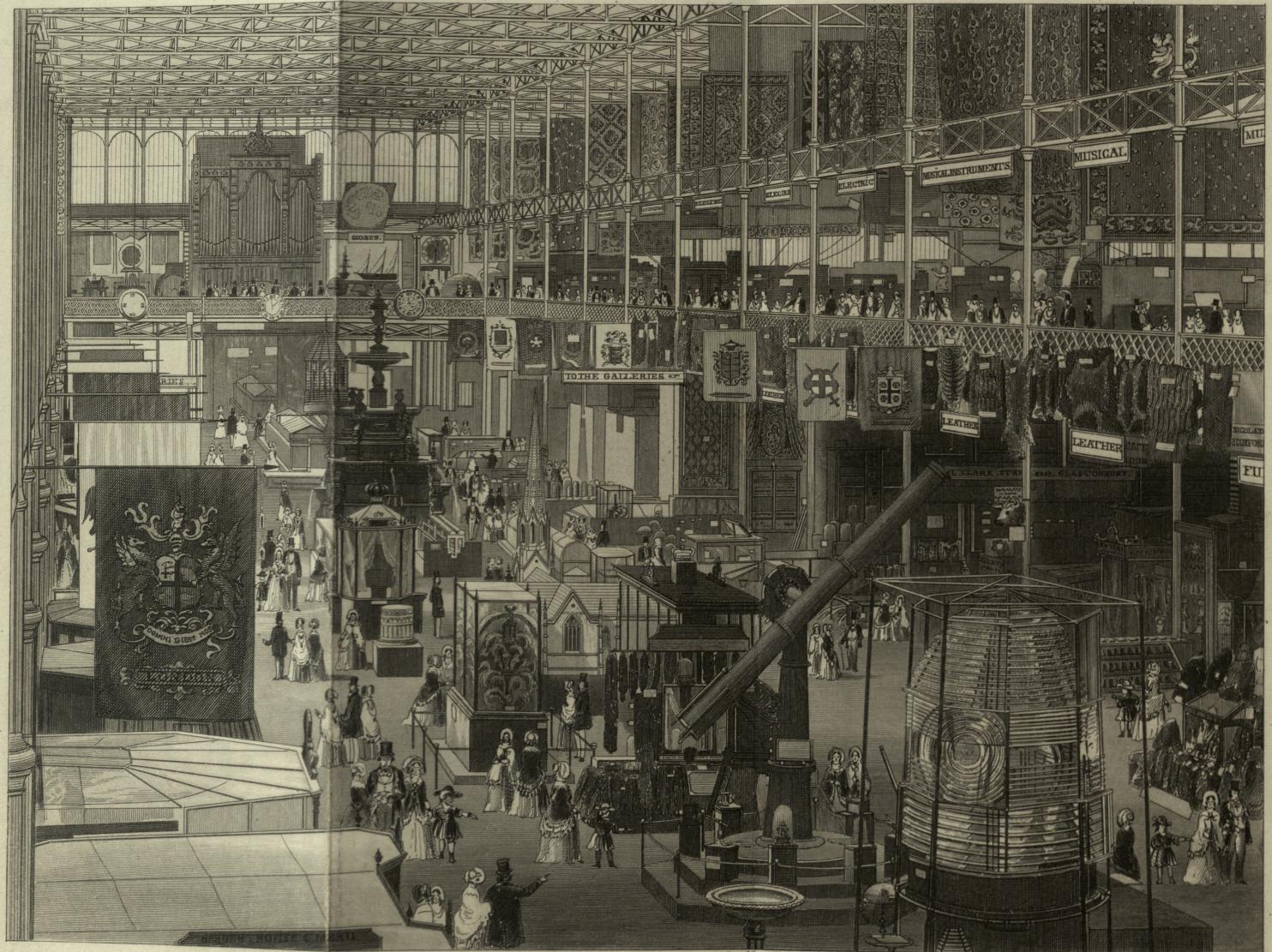






Engraved by J. Moore, from a Daguerreotype by R. Beard.

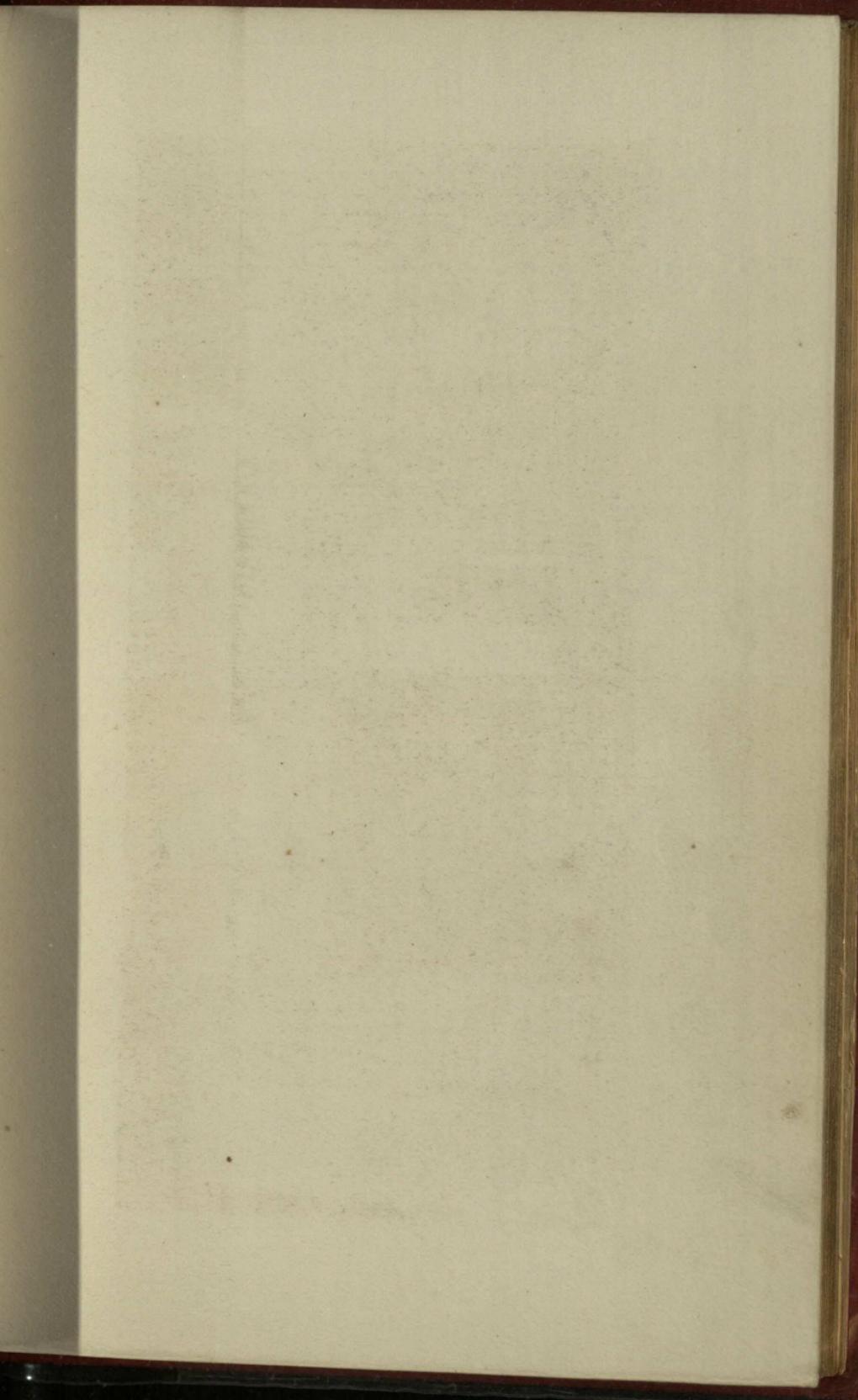
MODEL OF BREAKING IN THE HORSE BY VON HOFER.



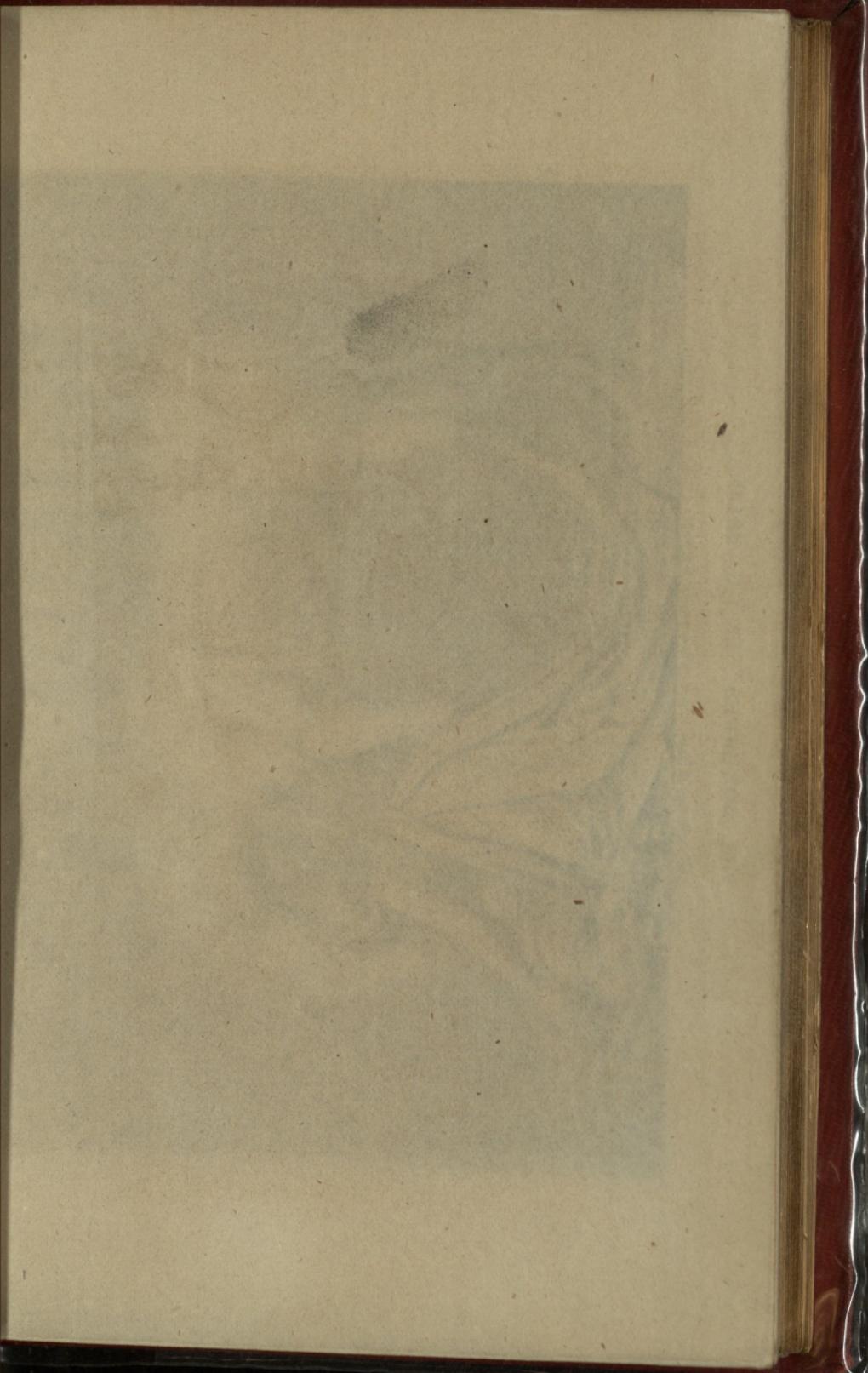
Engraved by H. Bibby, from a Daguerreotype by Mayall.

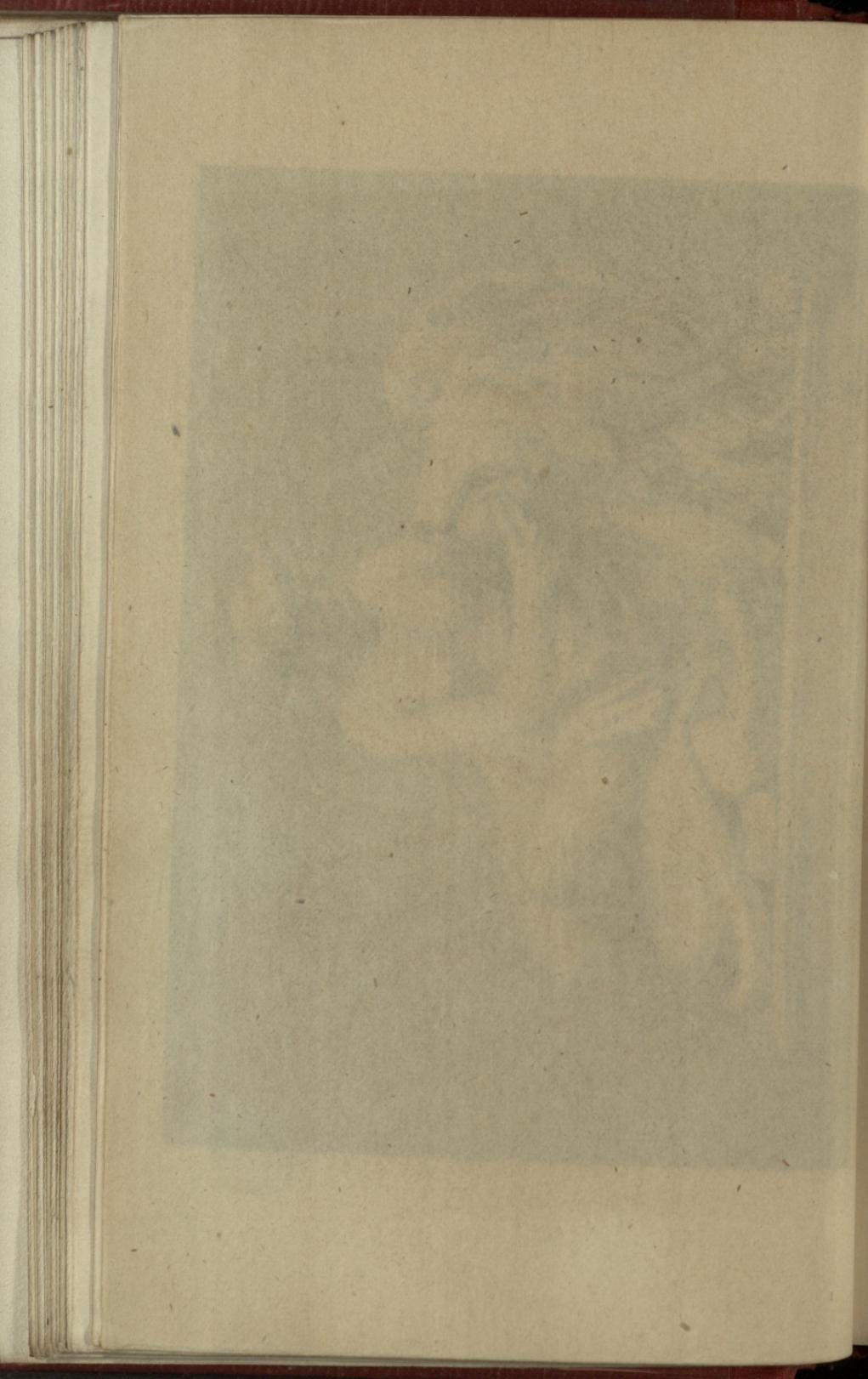
THE GREAT EXHIBITION, MAIN AVENUE,

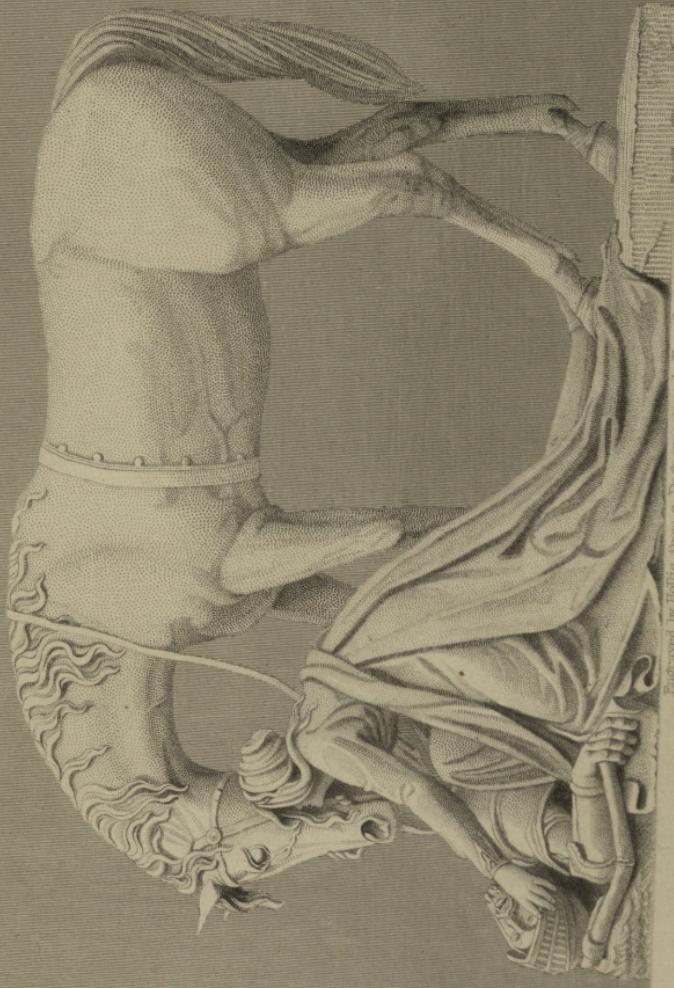
LOOKING WEST, NO. 2.





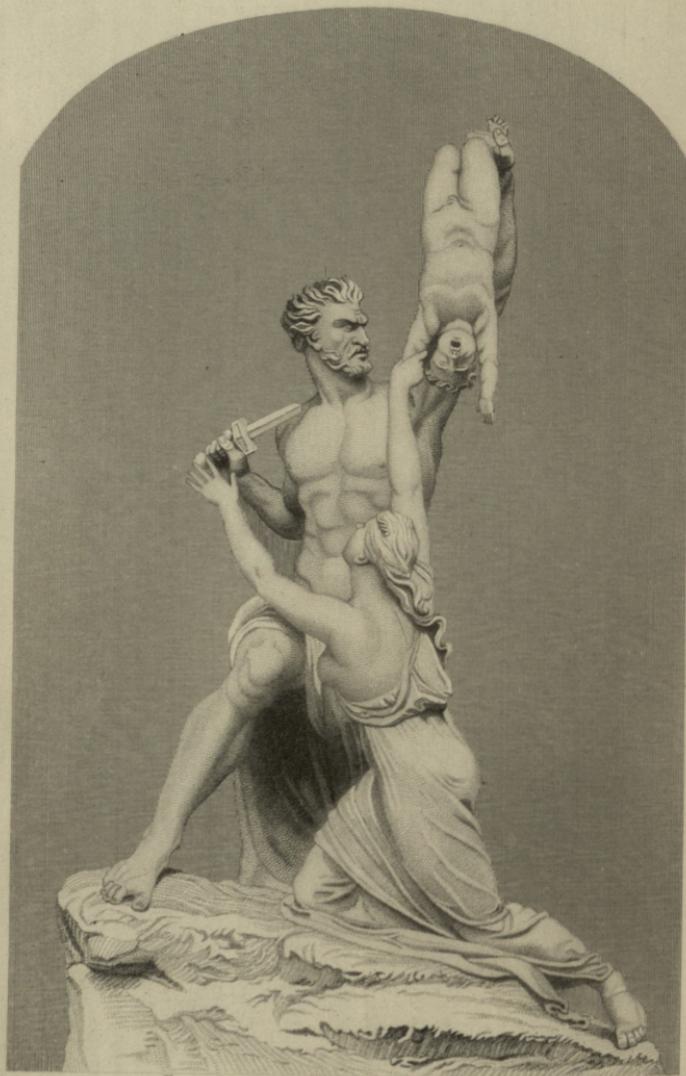






Engraved by Hallis from a Daguerreotype by Beard.

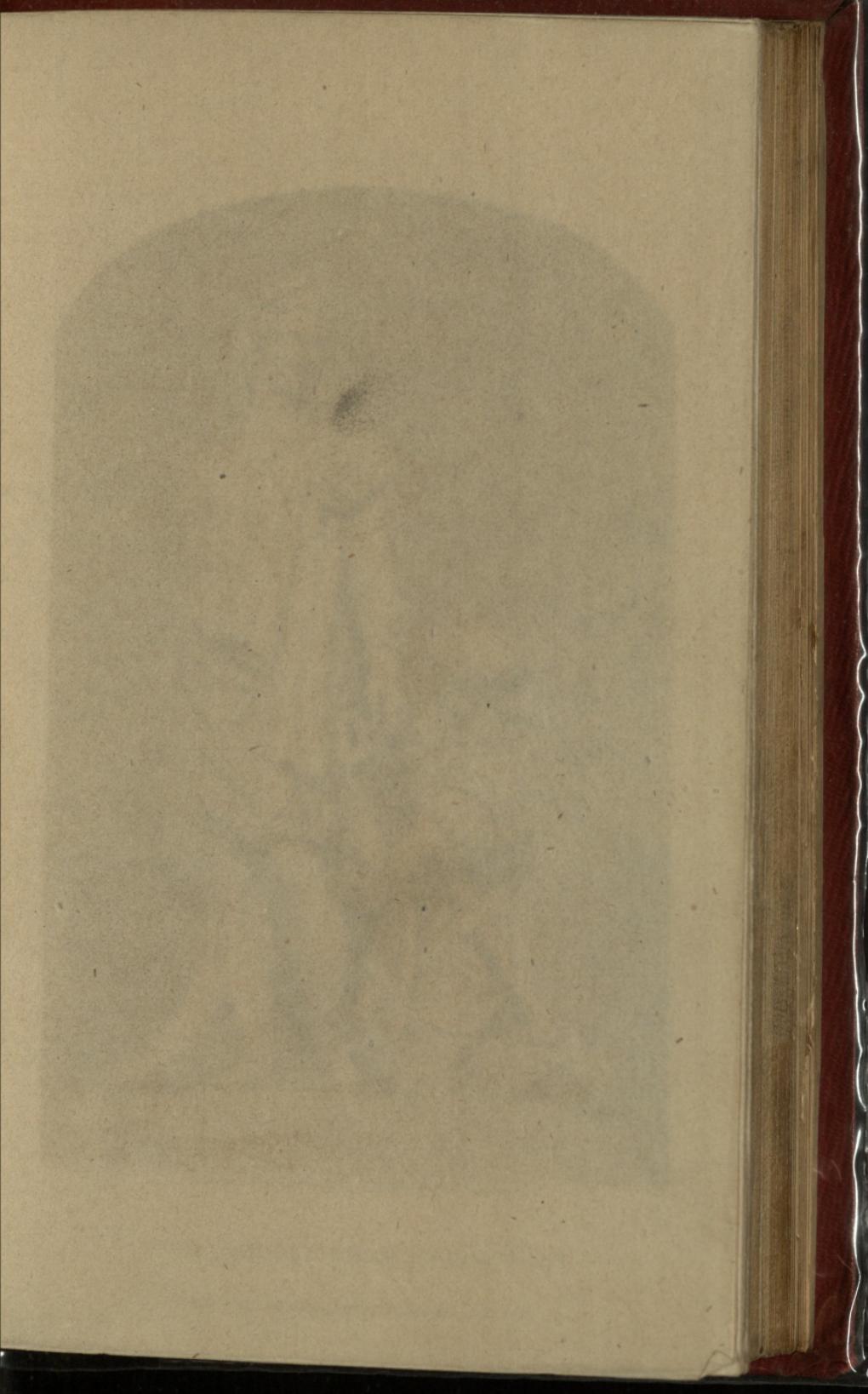
THE MOURNERS — BY J. GLOUCH

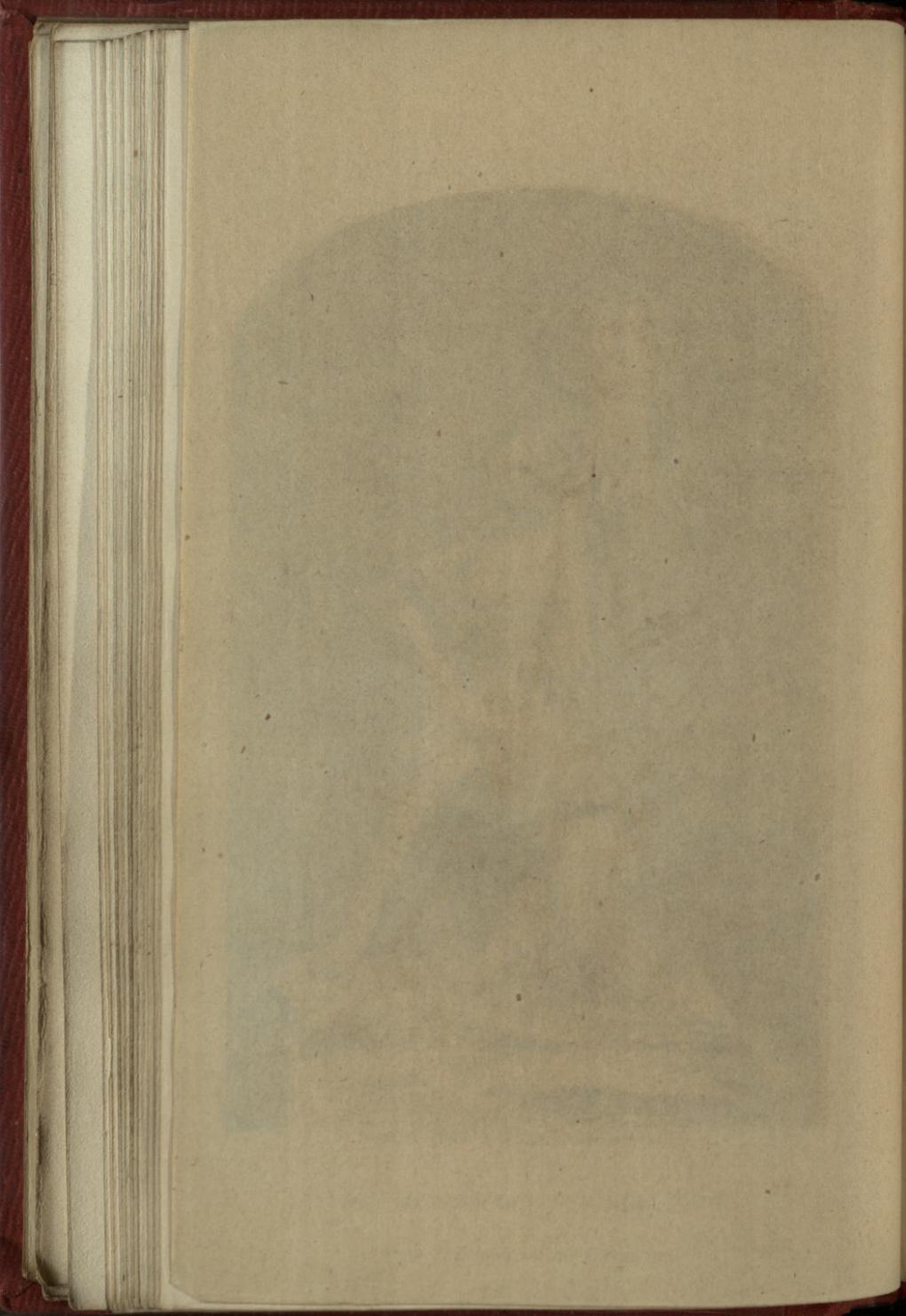


Engraved by Hollis, from a Daguerreotype by Beard.

THE MURDER OF THE INNOCENTS.

FROM THE ORIGINAL BY P. HOLLINS.







Engraved by Hollis from a Daguerreotype by Beard.

THE LIBERATION OF CARACTACUS

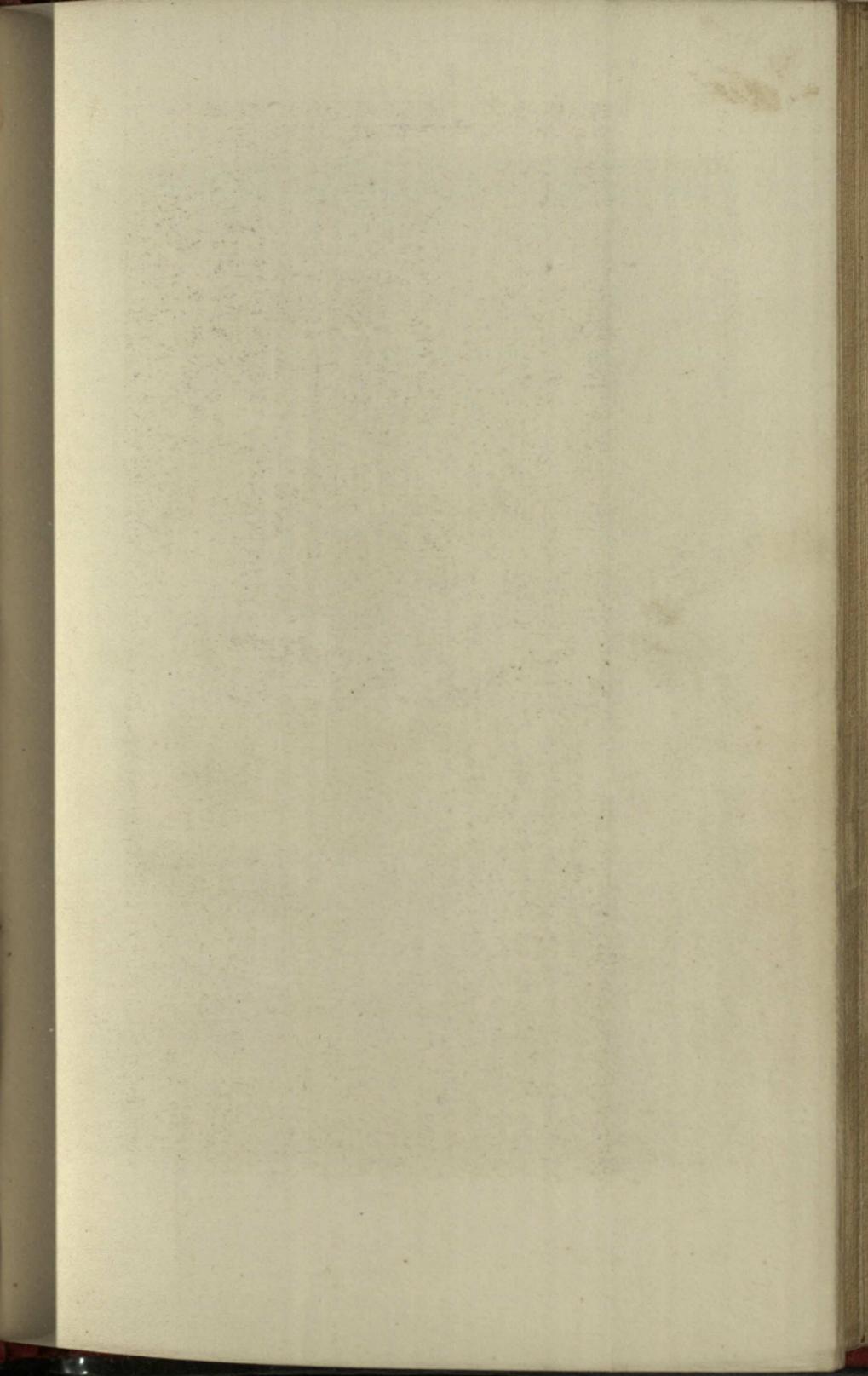
FROM THE ORIGINAL BY C. PANORMO, A.R.S.D.

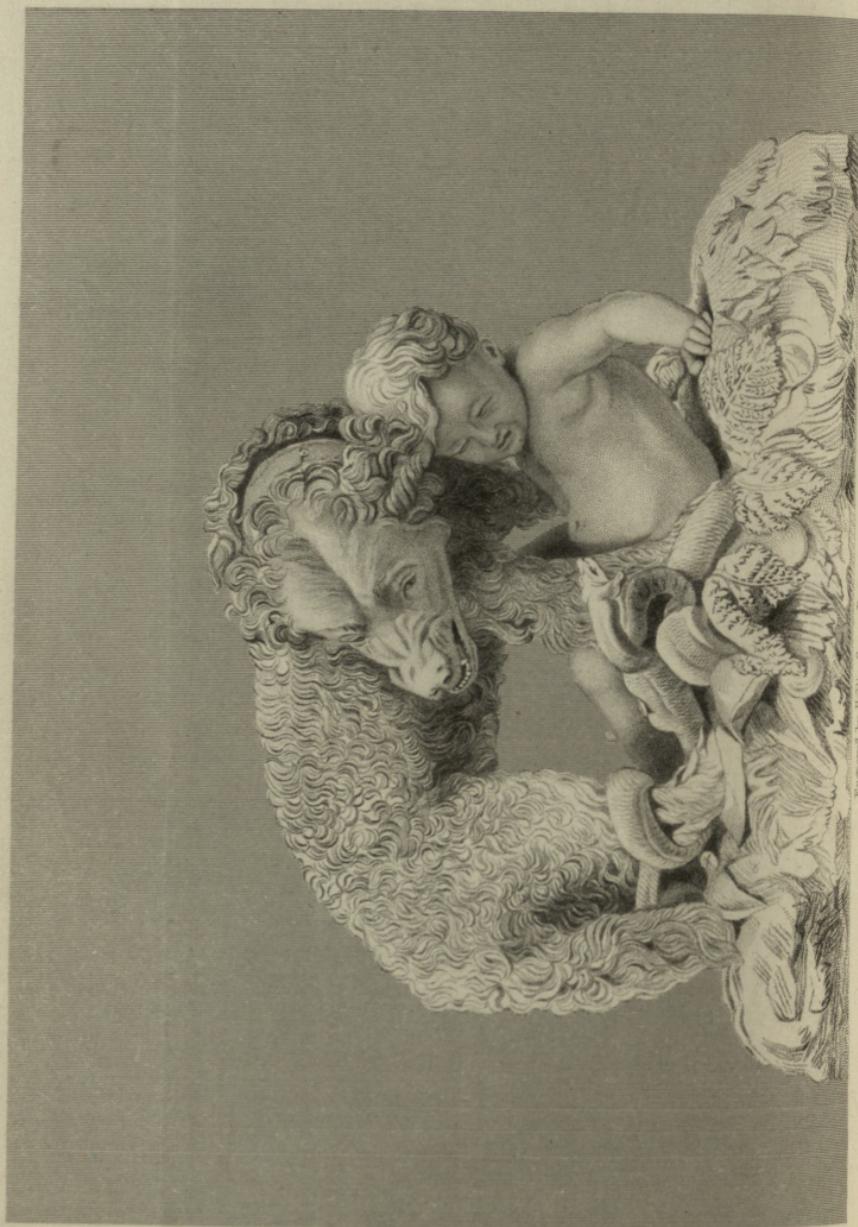


Engraved by H. Bibby from a Daguerreotype by Mayall

THE GREAT EXHIBITION, MAIN AVENUE.

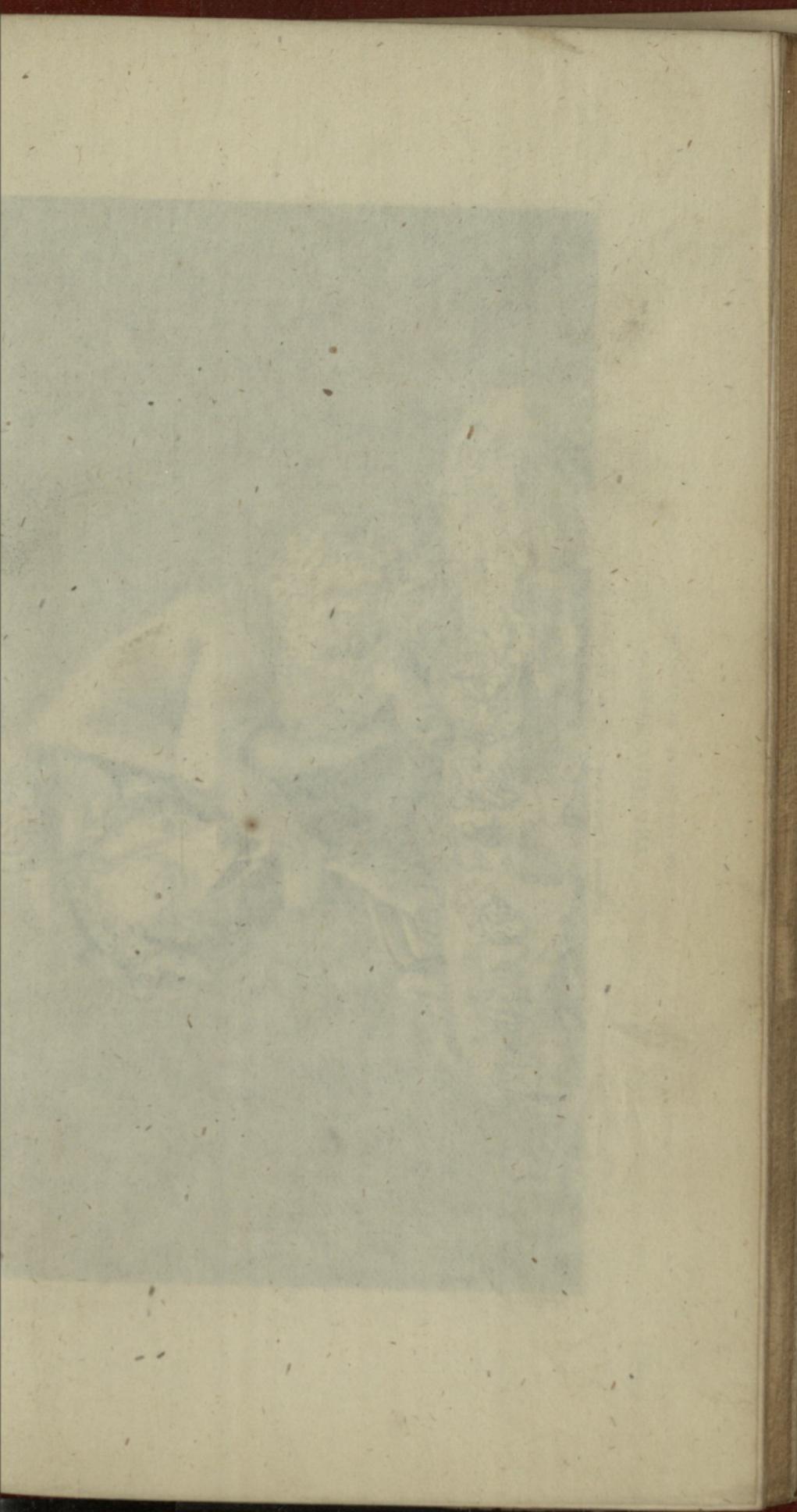
LOOKING SOUTH N°3.

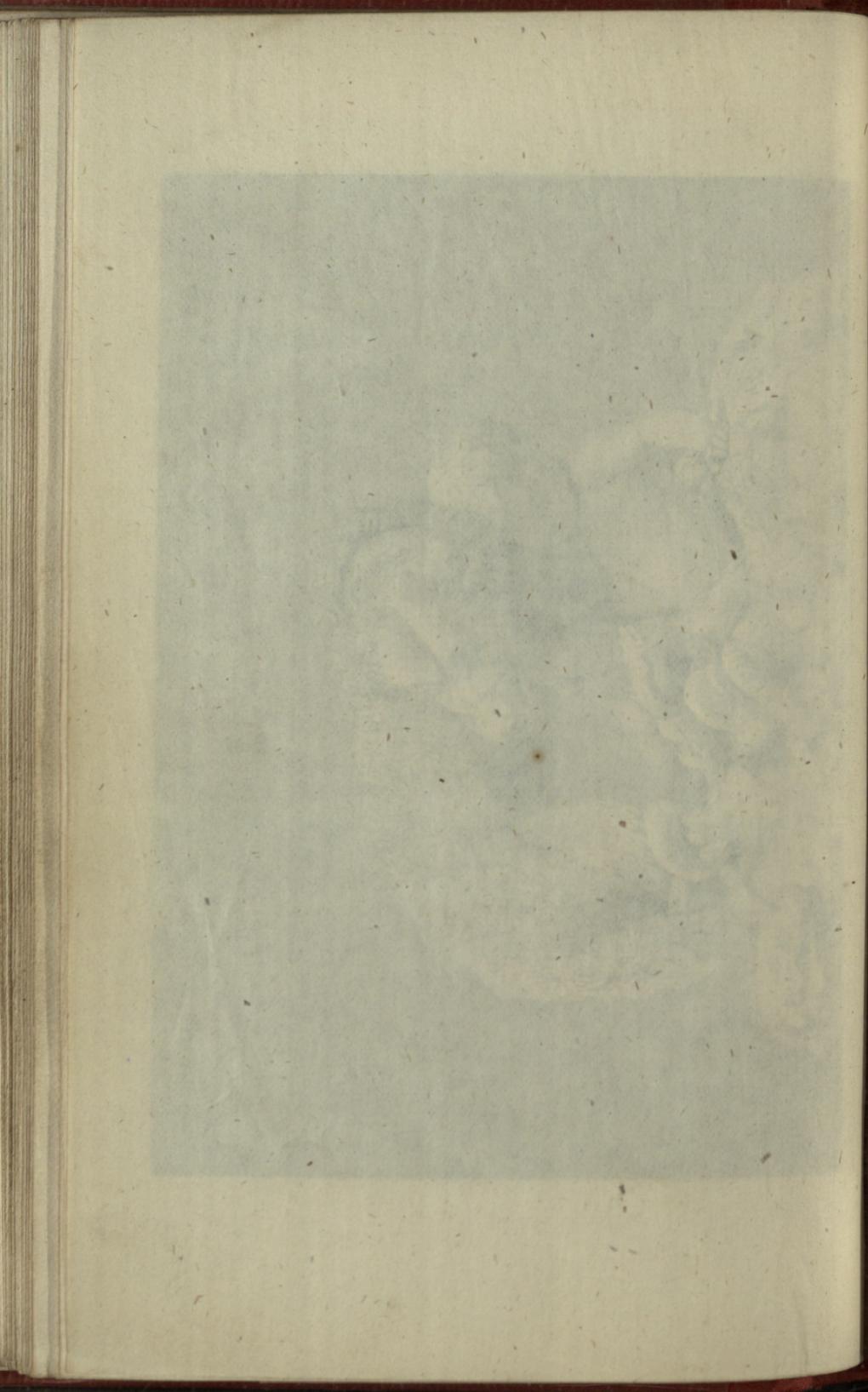




Engraved by Holts from a Drawing by Ward.

THE BOY ATTACKED BY A SERPENT







Engraved by Halls, from a Daguerreotype by Board.

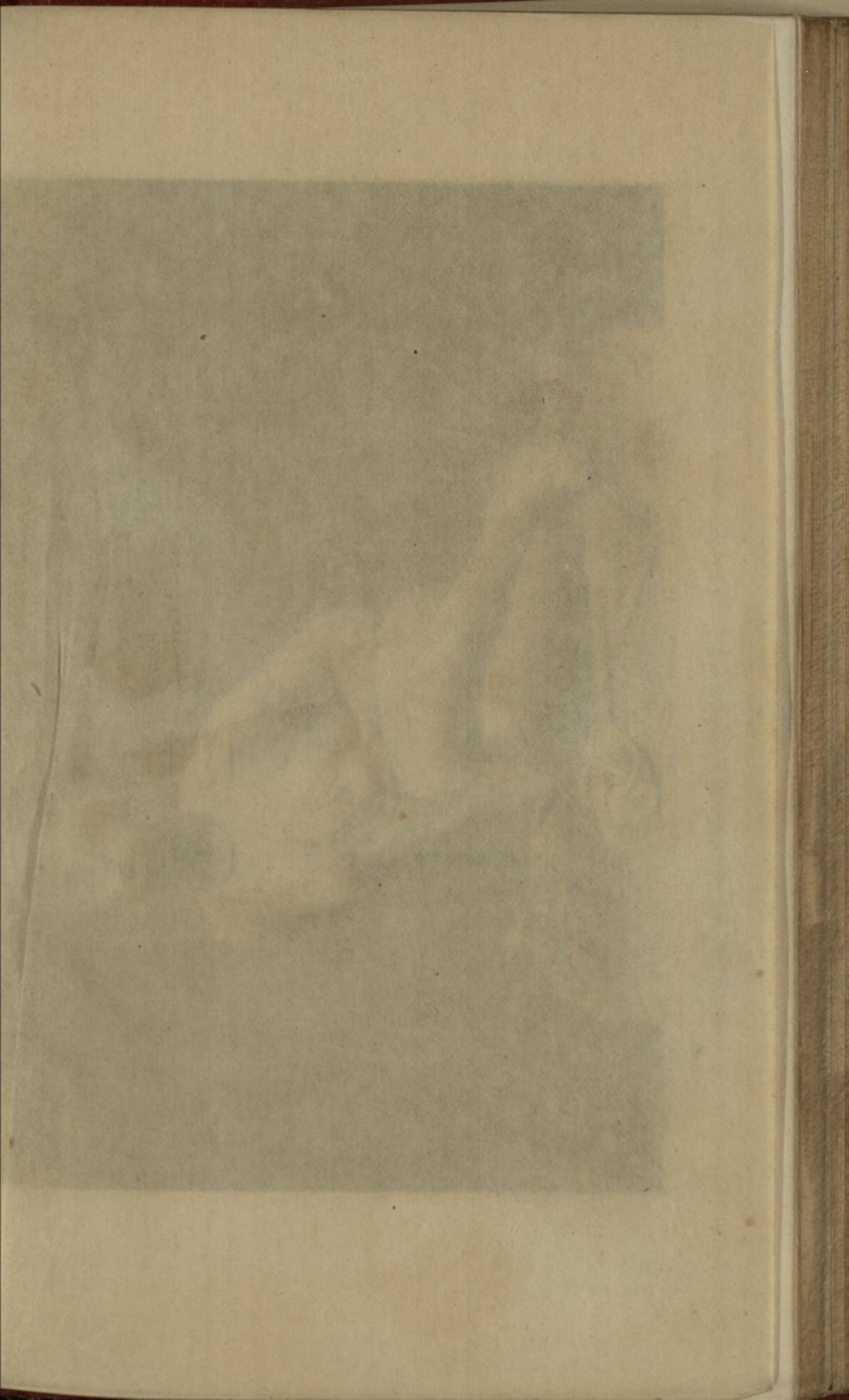
THE DELIVERER

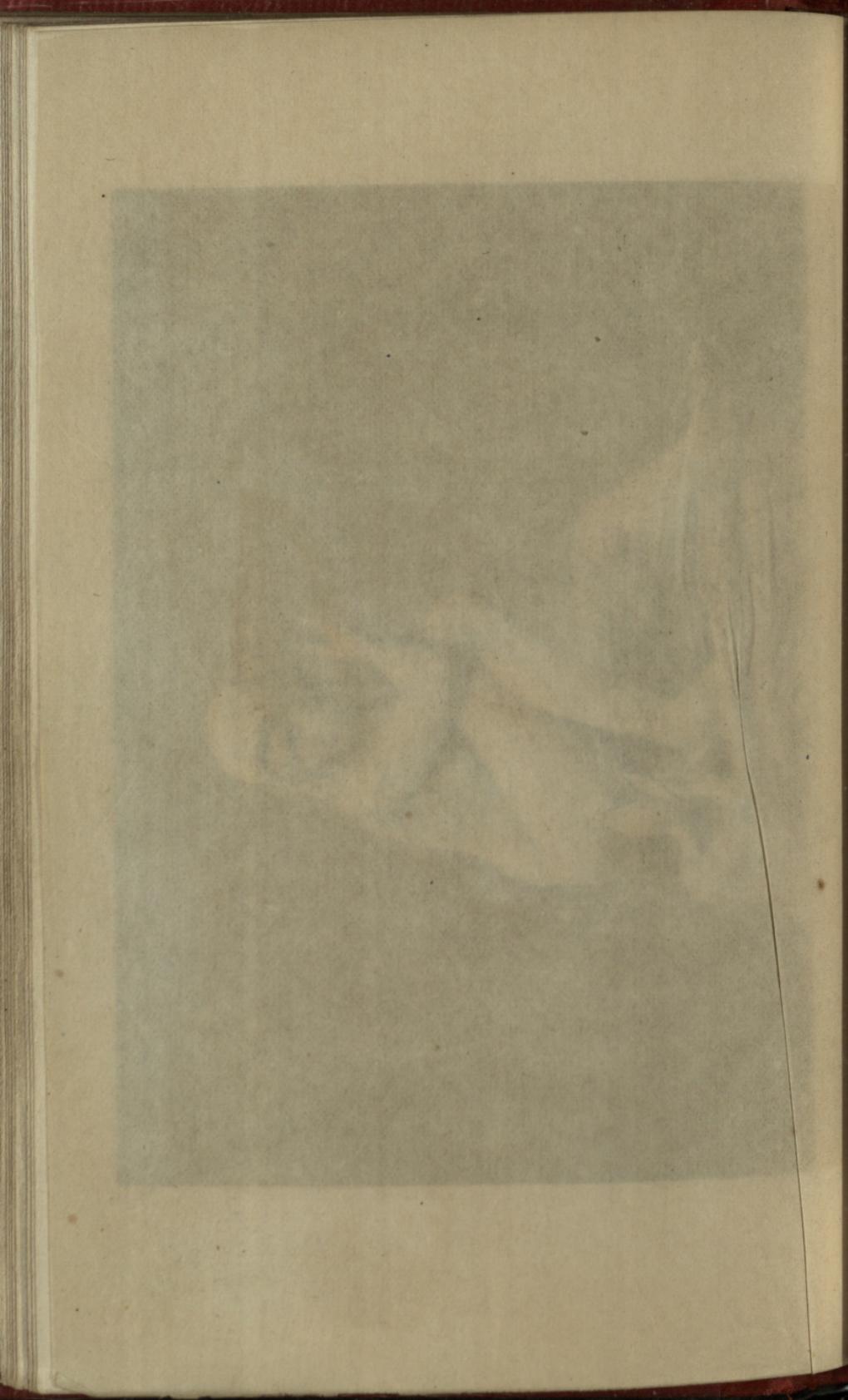
FROM THE ORIGINAL BY LECHESNE.

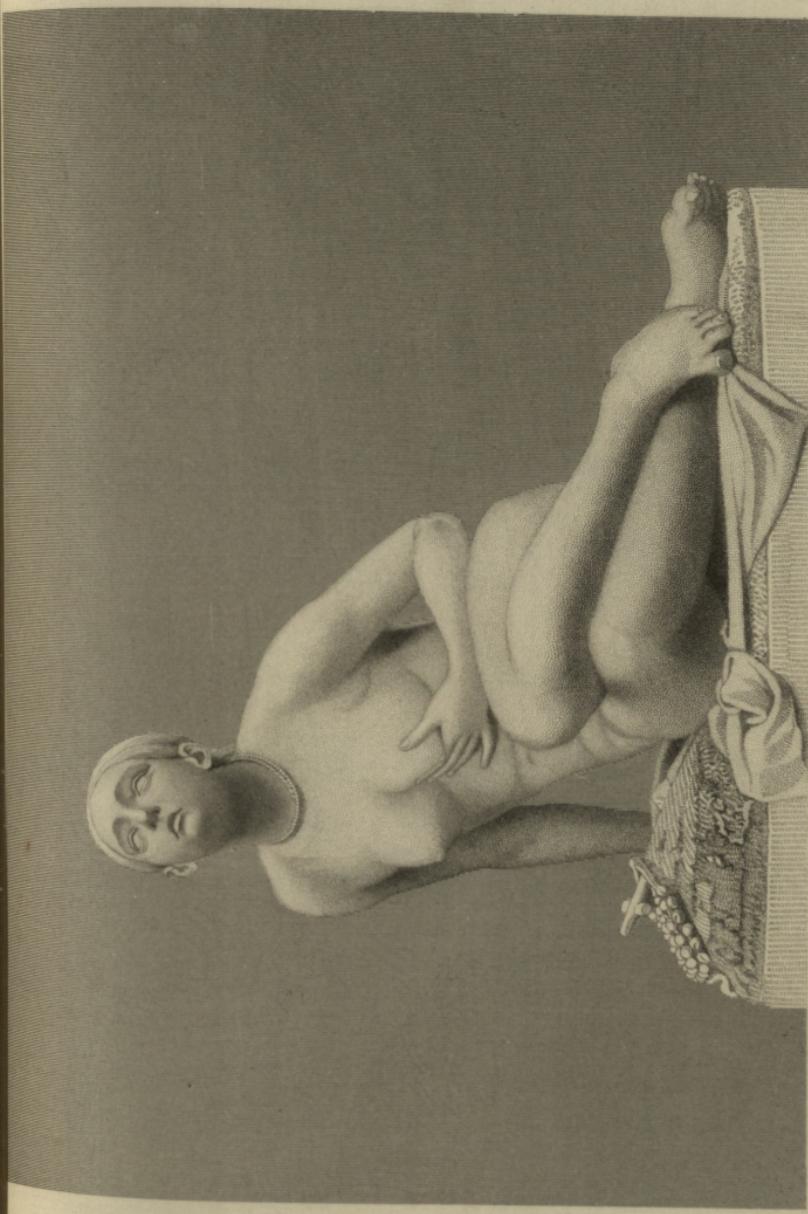


Lagrayed by Hollis from a Daguerreotype by Beard.

EVE AND THE SERPENT

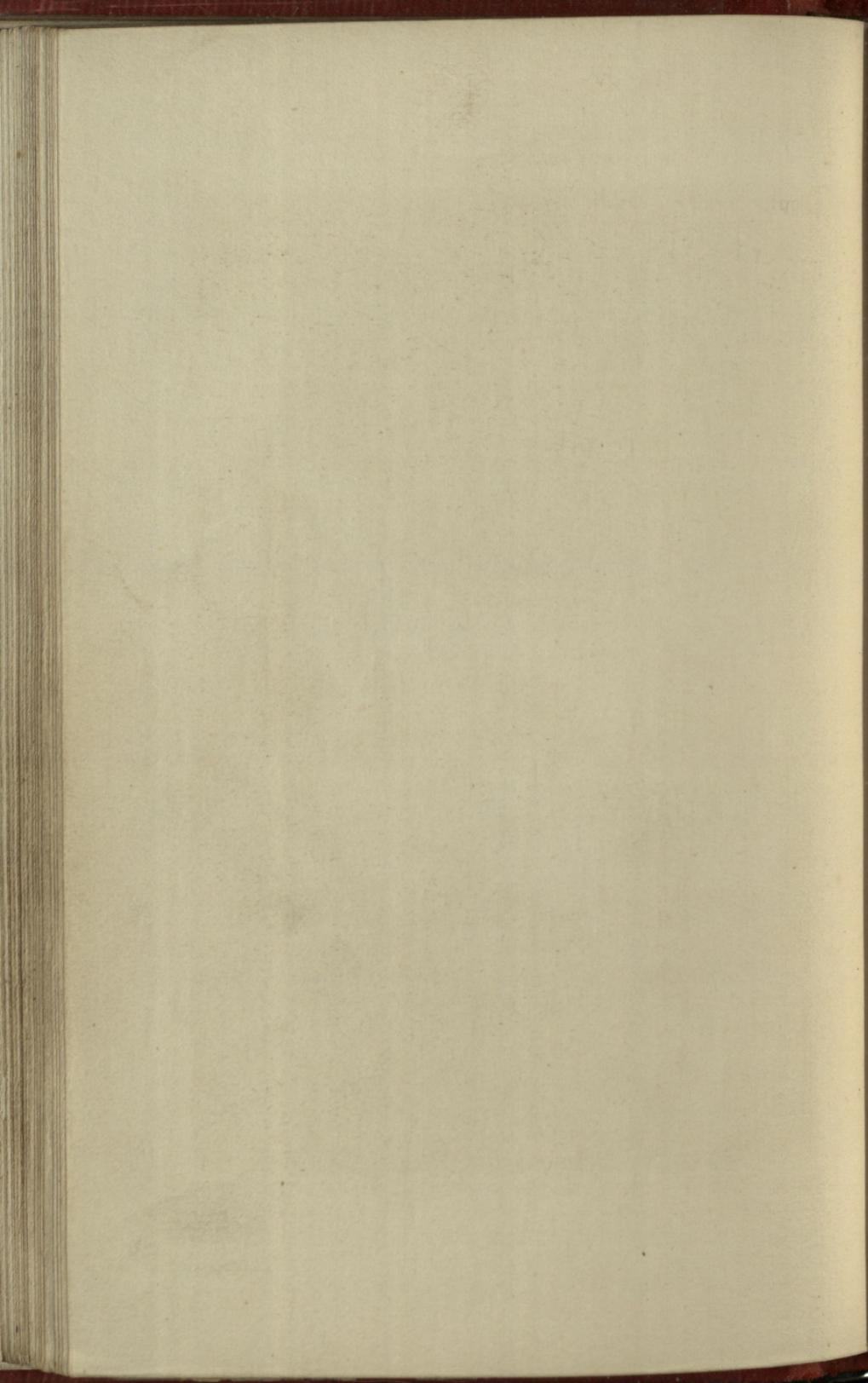






CANADIAN WOMAN WEEPING THE LOSS OF HER CHILD.
Engraved by Hollis from a Daguerreotype by Beard.

FROM THE ORIGINAL BY GUYPER.



RESPECTFULLY
DEDICATED TO



H.R.H. PRINCE ALBERT,
K.G., ETC., ETC.

The Great Exhibition OF THE WORLD'S INDUSTRY,

HELD IN LONDON IN 1851.

DESCRIBED AND ILLUSTRATED

BY BEAUTIFUL STEEL ENGRAVINGS,

From Daguerreotypes by Beard, Mayall,

ETC., ETC., ETC.

PRINTED BY JOHN TALLIS AND COMPANY,
AT 97 & 100, ST. JOHN-STREET ; AND PUBLISHED BY THEM AT 1 & 2, BLUECOAT
BUILDINGS, NEWGATE-STREET, LONDON ; AND 40, JOHN-STREET, NEW YORK.

СИМВОЛ ВЪЗДУШНОИ
СЪСЛОВИИ

УЧЕБНИК
СТРАТЕГИИ



THE WORLD'S INDUSTRY

THE 20

WORLD'S INDUSTRY

1881 IN LONDON BY CLARK

СИР АРЧЕЛСОН И СЪУПАРН

THE WORLD'S INDUSTRY

THE WORLD'S INDUSTRY

— 1881 —

THE WORLD'S INDUSTRY
1881 IN LONDON BY CLARK
AND SON LTD



THE GREAT EXHIBITION.

INTRODUCTION.

THE fame of the Crystal Palace has gone forth to the utmost bounds of the civilized world. The extent of its aim, as an Exhibition of the natural productions, the arts, sciences, manufactures, and fine arts of all nations,—the ingenuity of its plan, the vastness of its departments, its exactness in particular, its beauty as a whole, its success in all the objects for which it was undertaken, the feelings of amity and benevolence it called forth, the enlargement of mind it gave rise to, the practical benefits necessarily springing out of the scientific contemplation of its contents, the unceasing source of delight it afforded to the thousands upon thousands who flocked, day after day, to behold its treasures, the brilliancy of its opening, the harmony of its close, the thankfulness and gratitude inspired in every reflective mind, during months of peaceful and rational enjoyment, undisturbed by any painful accident or jarring feelings,—all these are chronicled in such variety of form and language, as to defy the power of oblivion,—and we may safely pronounce that the House of Glass, raised by the best feelings of humanity, and intended to promote its best interests, will exist in the annals of history, borne on the magic wings of the press, to the remotest corners of the

habitable globe, long after the vaunted pyramids of Egypt, of which the builders and the object are already alike unknown, shall have crumbled into dust.

In contributing yet another to the almost countless number of publications that have already appeared on this apparently inexhaustible subject, some statement of the grounds upon which the proprietors rest their hopes of success, in a field wherein they have to meet so many competitors, beforehand with them in the lists, may be reasonably expected. Those grounds, they flatter themselves, will be found, without any necessity of more laboured explanation on their part, in the superior excellence of the engravings, which they were unwilling to endanger by hurrying the execution of them; and in the taste and acumen of the descriptions, which emanate from an artist equally skilled in the use of the pen as the pencil, and whose productions in both those departments have frequently elicited the admiration of the public.

In order that the engravings should be faithful transcripts from the actual objects they profess to delineate, the proprietors have been at the expense of having all those objects taken on the spot by the Daguerreotype, with a patience and exactitude that would not pass over the smallest imperfection or deficiency, and whatever was not fortunate in the first instance was reproduced, till complete success was obtained. The labour of rendering upon steel *fac-similes* of these minute creations was immense, as will be readily believed upon inspection of them: the expense was of course proportionate; but this

expense, great—it may almost be said enormous—as it has been, the proprietors have willingly taken upon themselves, in the full confidence that they shall ultimately be remunerated by the generosity of the British Public, alike quick to discover excellence, and liberal in rewarding it; and which they flatter themselves will regard these exquisite gems of Art with feelings somewhat akin to those inspired by the skilfully pourtrayed features of a valued friend, delighting equally from the truth of the resemblance, and the pleasing remembrances they call forth.

With regard to the account of the rise and progress of the Crystal Palace itself, the ensuing pages will be found to present rather the lively and graphic description that might be given in the course of social converse, than the detailed statistical statements which, however desirable they might be, while it was yet in its infancy, and advancing step by step towards the maturity to which the public so anxiously looked, watching its growth through every step of its intermediate stages, would now, on a retrospective view, appear unnecessarily minute, and even tedious to general readers. From the same consideration the objects selected for representation are chiefly such as will always continue to gratify the lovers of beautiful forms and elegant designs; and of which the descriptions will be found permanently useful, in guiding the taste, and inciting to excellence in whatever branch of ingenuity or of the fine arts it may be sought.

“A thing of beauty is a joy for ever!”

says the poet; and we fully agree with one of our con-

temporaries, who, in happy illustration of the sentiment says, "We would have every thing in a house touched by the divining rod of the poet. An inkstand, instead of being a literal glass bottle, or a fine piece of or-molu, or bronze, significant of nothing but costliness, might be fashioned to represent a fountain, with a Muse inspiring its flow; our goblets might bubble over amongst hop-leaves, and stems of blossoms; our decanters be composed of transparent vines, clustering in wild confusion, or drooping over trellis-work, as we see them in the sunny south; our bell-ropes, that carry more messages than the electric wires, might be converted into hanging garlands; our water-jugs be made to flatter the palate with their look of coolness; snow creaming over the edges, and harts drinking at brooks, in the shadows down the sides: lively colours, tastefully toned and harmonized, might be scattered over our rooms, under a thousand pretences of necessity, and in every article of furniture the forms of a classical antiquity, which always possessed the charm of innate grace, delicacy, and refinement, might be successfully revived."

There is no doubt that the Crystal Palace has done much already, to further so desirable an end, and as every effort to perpetuate the remembrance of its contents must be regarded as conducing to the general advancement of taste, and the promotion of the beautiful, the proprietors trust that theirs will come in for its full share of the approbation which it will be their endeavour to deserve.

CHAPTER I.

ORIGIN OF THE EXHIBITION—PROPOSED SITE—WAYS AND MEANS—VARIOUS PLANS SUGGESTED—FINAL SELECTION.

THE English have always been renowned for improving on the inventions of others. The facetious Joe Miller, the father of *impromptu* jest-books, informs us that a Frenchman, boasting of his nation being the primary introducers of frills, at the bosom and wrists of male fashionables, the Englishman replied, “We will not dispute with you the honour of inventing the frill, we only claim the merit of having added the shirt to it.” Now it must be acknowledged, that the merit of the first idea of a Public Exhibition of the choicest productions of a country, in art and science, an Exhibition undertaken solely for the display of excellence, and for encouragement of every effort towards the attainment of it, without any immediate thought of profit to the originators, beyond their share in the general good that might accrue from it to society at large, is decidedly due to the French. Exhibitions of goods, merely considered as marketable commodities, assumed to be the best of their kind, were indeed common enough in all countries pretending to civilization, at the fairs which formed the annual meetings of our forefathers, with their relatives and friends; but exhibitions in which the perfecting of the articles exhibited should be the primary object, and the commerce to be afterwards derived from them merely secondary, have only taken place among us, during the latter half of the preceding century to the present time. And here we may claim priority over our neighbours, for it is now nearly a century ago since the Society of Arts, in London, first offered prizes for specimens of manufactures, in the various mechanical arts which are at once the evidence and the reward of a desire to increase the comforts and refinements of social existence. The Royal Academy, at the

same time, took the loftier productions of the fine arts under its protection ; organized exhibitions of paintings, sculptures, and engravings, and adjudged prizes among the exhibitors, according to the degrees of merit their productions were found to display.

Gradually these examples were followed by each of the metropolitan cities, and the principal manufacturing towns of the United Kingdom began, one after another, to promote annual or triennial exhibitions among their manufacturers and artisans of the articles most worthy of notice. Of all these local exhibitions, that of Birmingham, in the autumn of 1849, was the most comprehensive and important, so that it may be justly esteemed as a precursor of that wonder of the world which, less than two years after, was destined to "rise like an exhalation," and cast all its predecessors into the shade.

Still those preceding exhibitions had all been of a private and local character, receiving neither sanction nor assistance in any way from government, or public money, save in the solitary instance of the exhibition of manufactures relative to the decoration of the Houses of Parliament, which was instituted by the Fine Arts Commissioners. Whilst in France, on the contrary, the very first exhibition of industrial products took place in 1798, expressly as a national institution ; it was followed by a second in 1801, a third in 1802, and a fourth in 1806. A lapse of thirteen years then occurred, filled up with the successes and defeats, and defeats and successes of warfare ; the dethroning and re-throning of monarchs, and every other "change, chance, and circumstance" of that war, "which, were their subjects wise," as Cowper justly observes, "kings would not play at."

In 1819, however, the blessings of peace began to be felt in the tranquillity and security that ever are to be found in her train. The exhibitions of French industry were then renewed, and systematically continued, and from that time the influence of them began to be decidedly felt throughout Europe.

Nevertheless it was not till the great success of the exhibition in Paris of 1844, awakened a general desire throughout the United Kingdom to give its industry the advantage of a similar appeal to the public, as to the actual position it might hold in the scale of excellence, that the idea was entertained of organizing an exhibition on a still more extended scale in London. It is a well-known fact, that almost all the great works and important institutions of this country are the offspring of the wishes and exertions of the people at large; nor ought we, in fact, to quarrel with, or comment upon the reluctance that government always betrays towards aiding or bringing forth any new undertaking, until its value be tested and proved by individuals, when to that very reluctance we no doubt owe much of our national spirit of independence, which will not be driven off the ground it has once taken up; and for which we are indebted not only for all our most valuable acquisitions at home, but also for a great portion of the respect and confidence with which we are regarded abroad.

In 1848, his Royal Highness Prince Albert, had, with that courtesy, benevolence, and enlargement of mind which have so justly endeared him to the English nation, readily consented to lay before the government a proposal submitted to him, for the establishment of a self-supporting exhibition of British industry, to be controlled and protected by a royal commission; but not even his approval of the scheme, and conviction of its eligibility could conquer the accustomed apathy of the parties whom he had to address; and the great mass of the people who were most interested in the measure, were, perhaps, not sorry to find that if they really meant to carry it into execution, it must be by their own exertions alone. The Society of Arts had made an attempt, though an abortive one, in 1845, to establish an exhibition of national industry; in 1847 they renewed it with more success; in 1848 with more still; insomuch that the council were encouraged to announce the intention of the society

to hold annual exhibitions from that time, as the means of establishing a quinquennial exhibition of British industry, on an enlarged scale, to be held in 1851.

His Royal Highness Prince Albert was of course informed of these proceedings, from time to time; and immediately after the closing of the session of 1849, he took the subject under his own personal superintendence. As President of the Society of Arts, he commissioned several of its members to proceed forthwith to the manufacturing districts, in order to ascertain the sentiments of the leading inhabitants: these commissioners visited sixty-five places, comprehending the most important cities and towns of the United Kingdom; public meetings were held in them, local committees formed, amounting to three hundred and thirty in number, and nearly five thousand influential individuals registered their names as supporters of the proposed Exhibition. With so favourable a commencement, the Queen willingly granted her royal commission for its organization and protection, to her "most dearly-beloved consort," and to all "the right trusty, and right entirely well-beloved cousins and councillors," whose names are mentioned in the deed, in due succession, according to the dignity of their offices.

The next point to be settled was the site on which the edifice was to be reared. Divers places were proposed; Battersea-park, Victoria-park, Wormwood Scrubs, Wandsworth, Primrose-hill, even the Isle of Dogs; divers objections were raised to each. Government had offered the area of Somerset House for the purpose, or, if that situation were not deemed eligible, some other on the property of the crown. Prince Albert pointed out the vacant space in Hyde-park, on the south side, parallel with, and between the Kensington drive and the ride famous for fashionable equestrians of both sexes, known by the somewhat inappropriate name of Rotten-row; and the result proved that a more judicious choice could not have been made. The distance was sufficiently removed from the busiest parts of the capital, to prevent any

interruption to its commerce, yet not so far as to be inconvenient, or cause unnecessary loss of time to the crowds of visitors that were to be expected. The approach to it, through the most attractive parts of the metropolis, and the noble park so inestimable to the people, predisposed the mind to agreeable anticipations; the allotted portion of ground comprised upwards of twenty-six acres, presenting a length of two thousand three hundred feet, and a breadth of five hundred, and here and there lofty elms extended their venerable branches, to be gradually enclosed within the Crystal Palace, of which they were destined to become one of the most interesting ornaments. There was also an additional advantage in this site; an advantage which Prince Albert, with the goodness of heart that in him reveals itself on all occasions of public benefit, pointed out as deserving of particular attention, and that was, that it "admitted of equal good access to high and low, rich and poor; and that those who went down in omnibuses, would have equal facilities of approach with those who went in their private carriages." What a contrast did this generous consideration afford to the selfish murmurings of a throng of idle loungers in the fashionable world, who loudly proclaimed against the hardship and injustice of being obliged to sport themselves and their steeds on one side of the Serpentine instead of the other!

The Royal Commission obtained, and the ground fixed upon, the next subject for consideration was the "Ways and Means;" in other words, how to provide the money, which forms the sinews of all great undertakings, in peace as well as war. The Messrs. Munday had, at a very early period of the discussion on the subject, proposed, with a degree of liberality and confidence, which, as the Royal Commissioners did them the justice to acknowledge, reflected the highest credit upon them, to deposit twenty thousand pounds as a sum for prizes; to advance whatever other sums might be necessary for preliminary expenses; to provide offices, to erect a suitable

building, and to take upon themselves the whole risk of loss, on certain conditions, which conditions were equally declared by the Royal Commissioners, to be "strictly reasonable, and even favourable to the public."

Nevertheless, the wishes of the people so evidently turned towards considering the Exhibition entirely as a national and self-supporting institution, that it was judged expedient by the Royal Commissioners to set the contract of Messrs Munday aside, on repaying them the sums they had advanced, with the interest accruing, and to organize an Executive Committee, with Lieutenant-Colonel D. Reid, R.E., at its head, as chairman, and to charge it with the duty of arranging the financial operations. Accordingly the first step of the new commissioners was to appeal to all classes of the community, for subscriptions to carry out the object proposed: to point out to them that the scale on which the undertaking could be completed must depend entirely upon the amount of the sums received on its behalf; and to call upon them to make such liberal arrangements as would enable the Executive Committee to realize the plans proposed, in a manner worthy of the character and position of the country, and of the invitation it had sent forth to all nations, to compete with it in a spirit of generous and friendly emulation.

It will be easily imagined that in our land of commerce, and of all the enlarged ideas to which commerce gives rise, a land wherein, very lately, we have seen, at a meeting on a political question, subscriptions pouring forth at the astounding rate of a thousand pounds a minute, an appeal like this would be willingly responded to. Seventy-five thousand pounds were subscribed in the different manufacturing towns and seaports of the United Kingdom; of which sum nearly forty thousand were contributed by the city of London alone. A guarantee fund of two hundred and thirty thousand pounds was formed by a limited number of persons, including most of the commissioners and other friends of the undertaking, one of them opening the list with the munificent subscription of fifty thousand

pounds ; and upon the security of this fund the Bank of England consented to make such advances of money as might be requisite from time to time.

Having now seen the “ways and means” provided for, we must proceed to lay the foundations of the palace itself with our readers, and request their accompanying us in the rapid survey of its rise and progress, which is all that our limits will allow for this portion of our remarks.

The Building Committee having announced its desire to receive plans and suggestions respecting the edifice, from individuals of any country whatsoever that might be willing to offer them, they were speedily furnished with designs from no fewer than two hundred and thirty-three contributors : viz.—one hundred and twenty-eight from residents in London and its environs ; fifty-one from provincial towns in England ; six from Scotland ; three from Ireland ; twenty-seven from France ; three from Holland ; two from Belgium ; two from Switzerland ; one from Naples ; one from Rhine-Prussia ; one from Hamburgh ; and seven anonymous. Of these plans the Building Committee reported, that a large proportion of them were remarkable for elaboration of thought and elegance of execution ; that every possible mode of accomplishing the object in view had been displayed by the respective contributors, regarding economy of structure and distribution, and uniting these qualities with various degrees of architectural symmetry : that our “illustrious Continental neighbours” had especially distinguished themselves “by compositions of the utmost taste and learning, worthy of enduring execution ; examples of what might be done in the architectural illustration of the subject, when viewed in its highest aspect ; and, at all events, exhibiting features of grandeur, arrangement, and grace,” which had not failed to be duly appreciated. Another class were praised for the “enthusiasm” with which, bearing in mind “the great occasion and object of the Exhibition,” they had magnanimously “waived all considerations of expense,” and indulged their imaginations, and employed the resources

of their genius and learning, in the composition of arrangements presenting the utmost grandeur and beauty of architecture; and reminding the architectural student of all the conditions of his art—"the Egyptian hypostyle, the Roman thermæ, or of the Arabic or Saracenic inventions."

But, as Sancho Panza has wisely observed, "fine words butter no parsnips." Of all these elaborately-eulogised plans, not one was found alike fit, worthy, and possible for adoption; whilst the "faint praise" given to the "practical character" of the English, as "remarkably illustrated in some very striking and simple methods, suited to the temporary purposes of the building, *due attention having been paid to the pecuniary means allotted to this part of the undertaking*," and the disproportionate number of foreigners to whom "the highest honorary distinction" was awarded, being in the proportion of fifteen to eighteen among them, whilst amongst the English it was only *three* out of one hundred and eighty-five, together called forth a burst of indignation from the public, as well as from the number of candidates, who thought their claims had not been fairly dealt with. They complained that, whilst they had confined themselves strictly to the conditions specified, that only *suggestions* were to be given, that the plan or drawing was to be a mere outline-sketch upon a single sheet, and the written description or explanation of the plan to be comprised in a single sheet, their competitors had indulged in "elaborated designs, elegantly executed," many on a larger scale, and even with the advantage of colour.

The design for the edifice which the Building Committee submitted to the Commissioners, was no sooner made known to the public, than in the same manner another storm of disapprobation, plentifully intermixed with ridicule, broke upon their heads; and, truth to say, the *idea* was sufficiently open to objection. The realization of it would have brought forth a fabric four times the length of either Westminster Abbey, St. Paul's, or York

Minster; in fact, two thousand two hundred feet long, and four hundred and fifty wide. The main building was to be sixty feet in height, the dome more than one hundred and fifty in height, and two hundred in diameter; making it eleven feet larger in diameter than that of St. Peter's at Rome, and forty-five more than that of St. Paul's; whilst fifteen million of bricks would have been used in the building, altogether! Little did the committee imagine at that moment, that the structure was finally destined to stand forth in all the combined advantages of lightness, strength, and security, without the aid of brick, stone, or mortar! their places more efficiently and more economically filled by wood, iron, and glass. Yet so it was; a self-taught genius waved the wand with which he had before effected wonders, and up rose

THE CRYSTAL PALACE.

It is scarcely necessary to say that this genius, this magician was Mr. Paxton, or, as he will be known to future generations, Sir Joseph Paxton; and truly his descendants may be justly proud of an honour which ought to be continued to them, as it was granted to him on the sole ground that can render honorary distinctions really honourable, namely, that of merit.

CHAPTER II.

THE PAXTON PLAN—CONTRACT WITH FOX AND HENDERSON—VAST EXTENT OF ARRANGEMENTS—RAPID ADVANCEMENT OF THE BUILDING—VISIT OF THE SOCIETY OF ARTS—ARRANGEMENT FOR THE DISTRIBUTION OF GOODS—COURTESY TO STRANGERS—PRINCE ALBERT'S SPEECH.

MR. PAXTON had long been known to the public as the superintendent of the Duke of Devonshire's horticultural

departments, at Chatsworth and Chiswick, and for the improvements he had introduced into the buildings connected with them, particularly in the introduction of sheet glass for level roofs to conservatories. The idea was originally suggested to his mind by an attentive examination of the large umbrella-shaped leaf, and the longitudinal and transverse girders and supporters at the back of the gigantic and magnificent water-lily, known by the name of the *Victoria Regia*, imported into this country from South Africa, and which flowered for the first time in our clime, on the 9th of November, 1849, in a house expressly fitted up for it in the gardens at Chatsworth, where the water wherein it was placed was kept in motion by a small water-wheel, invented for the purpose by Mr. Paxton.

The account which Mr. Paxton gives of the considerations which first induced him to send in a design, the last in the field, to the Executive Committee, is admirable in its simplicity and truthfulness. It was not until one morning when he was present with his friend Mr. Ellis, at an early sitting in the House of Commons, that the idea presented itself to him, in consequence of a conversation that took place between them relative to the construction of the new House of Commons, in the course of which Mr. Paxton observed that he was afraid they would be committing another blunder in the building for the Industrial Exhibition, adding, that he had a notion concerning it in his own head, and that if his friend would accompany him to the Board of Trade, he would ascertain whether it was too late to send in a design. Upon inquiring of the Executive Committee whether they stood so far pledged to the plans already submitted to them, as to be precluded from receiving another, they replied, certainly not; for though the specifications would be out in a fortnight, there was no reason why a clause should not be introduced allowing another design to come under consideration. "Then," said Mr. Paxton, "if you will introduce a clause to that effect, I will go

home, and in nine days I will bring you my plans all complete." This was on Friday the 11th of June, 1850.

He had, however, to go from London to the Menai Straits, to see the third tube of the Britannia Bridge placed, after which he returned to Derby, to attend to some business at the board-room; but his thoughts were fixed upon his design, and he sketched it on a large sheet of blotting-paper, whilst the conversation was going on all around him. This precious embodiment of his first ideas on so momentous a subject was taken possession of by his wife, as he stated at a subsequent meeting, in excuse for not producing it; and the importance she annexed to its preservation, was a proof at once of her affectionate pride in her husband's talent, and of her judgment in appreciating the value of a proof of it, equally demonstrative of its readiness and precision. All that night he sat up to consider and correct it, and by the aid of his friend Mr. Barlow, he was enabled to finish all his plans by the Saturday following, and to start with them that day for London. To the honour of Mr. Stephenson and Mr. Brunel, they no sooner were made acquainted with Mr. Paxton's plan, than they acknowledged its merit, though it interfered with their own previous views on the subject, particularly Mr. Brunel's, which had embraced the idea of the monster dome; but he had the generosity to help Mr. Paxton in his plan for covering in the tall trees which were so dear to the public, that their preservation was made a *sine qua non*, by taking their measurement himself the next morning, and communicating it to Mr. Paxton, saying to him with equal frankness and good feeling, "although I mean to try to win with my own plan, I will give you all the information I can."

This is the true spirit in which men of science and genius should meet each other, and we may hope that instances of it will every day become more and more frequent, under the influence of that enlargement of sympathy and sentiment which the increased facility of

intercourse among nations with each other is the surest means of promoting.

We have already said that it was on a Saturday that Mr. Paxton came up to town with his design, and encouraged by the gracious approbation he met with from Prince Albert, he went forthwith to Messrs. Fox and Henderson, to ask them if they would make a tender for the building on his plan, which they accordingly did, enabled to do so by wording it as "an improvement" on the design of the committee. The contract was finally taken by these gentlemen for the sum of £79,800, and the materials after the close of the Exhibition; or for £150,000 if the building should be permanently retained. This was subsequently proved to be the lowest practicable tender that was submitted to the Building Committee; and not the least admirable thing connected with it, was the wonderful quickness and exactitude with which the necessary estimates were formed. It unfortunately happened that the next day was the first Sunday on which the delivery of letters was forbidden by the new postal arrangement. Nevertheless by the aid of the electric telegraph and railway parcels, the great iron masters and glass manufacturers of the north were summoned to come up to town on the Monday, to contribute their several estimates to the tender for the whole; and on the Monday,—

"Punctual as lovers to the moment sworn,"

They presented themselves at the office of Messrs. Fox and Henderson in Spring-gardens. Within one week from this meeting, the cost of every pound of iron, every inch of glass, and every pound of wood required for the building was calculated, and every detailed working drawing prepared.

"What was done in those few days?" says an able writer, in that excellent periodical, *Household Words*. "Two parties in London, relying on the accuracy and good faith of certain iron-masters, glass-workers in the

provinces, and of one master-carpenter in London, bound themselves for a certain sum of money, and in the course of some four months, to cover eighteen acres of ground, with a building upwards of a third of a mile long (1851 feet—the exact date of the year,) and some four hundred and fifty feet broad. In order to do this, the glass-maker promised to supply in the required time, nine hundred thousand square feet of glass (weighing more than four hundred tons,) in separate panes, and these the largest that ever were made of sheet glass; each being forty-nine inches long. The iron-master passed his word in like manner, to cast in due time three thousand three hundred iron columns, varying from fourteen feet and-a-half to twenty feet in length; thirty-four *miles* of guttering tube, to join every individual column together, under the ground; two thousand two hundred and twenty-four girders; besides eleven hundred and twenty-eight bearers for supporting galleries. The carpenter undertook to get ready within the specified period two hundred and five *miles* of sash-bar; flooring for an area of thirty-three millions of cubic feet; besides enormous quantities of wooden walling, louvre work, and partition."

It was on the 30th of July, 1850, that possession of the ground was obtained; on the 26th of the following September the first pillar was fixed. What a multiplicity of arrangements had to be formed in that short intervening period; "Details of construction had to be settled, elaborate calculations as to the strength and proportion of the several constituent parts to be made, machinery for economising labour to be devised, contracts for the supply of materials to be entered into, and thousands of hands set actually to work."

From the first moment of its commencement the interest of the public in the progress of the building was intense. Every day crowds of pedestrians were to be seen bending their steps towards the great attraction; fortunate did those think themselves that could obtain a peep, through the interstices of the wood-work, at the

piles of materials within; more fortunate still those who had special interest, or some well imagined plea of business, could gain a short admittance among the operatives themselves—and in fact, to the eye of benevolence, not the Crystal Palace in all its finished glories, presented a spectacle more interesting, than that offered in its progress, by the united labours of the industrious classes who were to bring it to perfection.

First, up went the boarding, round the destined space—away went the green sward, untouched by the spade, yet soon cut up as if the artillery of an army had passed over it. Then rose the wooden walls; then columns; then girders spanned across, first at formal and naked distances, but rapidly thickening like a forest of masts; or rather, if we may be allowed the comparison, like huge webs woven by beings who from below looked only like insects, ingeniously crossing the interstices—then galleries spread around, and stair-cases sprang up to meet them—and so onward went the work of a fabric, of the magnitude of which an idea may be formed more intelligible than any that can be communicated by mere figures, when it is stated to be four times the size of St. Peter's at Rome, and six times that of St. Paul's in London.

The workmen seemed to find strength and energy in proportion to the vastness of the field in which they were employed: 18,392 panes of glass were fixed in the roof in one week, by eighty men; 108 panes, or 367 feet 6 inches of glazing being accomplished by one of the glaziers in a single day.

It had been agreed upon by the contractors, that the members of the Society of Arts and their friends should be admitted, to examine the building previous to its being given up on a day specified, as sufficiently complete, to the authorities. The day appointed for this purpose was only the preceding one, so closely now was the time calculated upon: but certainly, whatever might have been the anticipations of the visitors, eight hundred in number, they found, immediately upon their entrance, those an-

ticipations exceeded as far, in fact, as the interior of the edifice has ever been found to exceed in its beauty, and the harmony of its proportions, the expectations formed by its exterior. Even the most practised eyes, accustomed to the gigantic scale on which the mighty works of the present era are carried out, could recal nothing to compare it to ; in fact, there was nothing comparable with it. It was as the time-revealed skeleton of some enormous animal, the vastness of which could only be ascertained by its measurement with surrounding objects.

It would be difficult to describe the effect produced upon the minds of the spectators, when they found themselves withinside the structure, of which every point was still in progress. All manner of operations seemed going on at once ; sawing, planing, glazing, painting, hammering, boarding. Here white vapours curled among the yet leafless branches of the imprisoned elms, from little steam-engines, each steadily fixed from day to day at its appointed duties. There clouds of dust covered the too curious spectator, from circular-saws, busily employed in cutting to equal lengths, the Paxton gutters. Then again were machines kindly guiding those same gutters, first through a trough of paint, and then through an aperture provided with brushes, which pressing closely upon them, in their passage, turned them out of it on the other side, all trimly coated. One vast apparatus was busying itself with the making of putty ; another with manufacturing sash-bars—here were vast boilers to generate steam for the machinery—there pipes diverging east and west, to convey to the fountains, and various parts of the building, the three hundred thousand gallons of water supplied per diem, by the Chelsea Water-works Company, by contract, at fifty pounds per month. Massive cranes were relieving ponderous waggons of their loads, and wheels and pulleys were everywhere in motion.

The din of voices and sounds amid the multitude of operatives, and the variety of operations may easily be imagined. Well might the overseers of different parties

of workmen be obliged to communicate with them through a speaking-trumpet. Yet, amid all this seeming “confusion worse confounded,” though in fact the perfection of well-organized regularity, Professor Cowper, with philosophic self-possession, delivered a lecture upon the construction of the building, and was surrounded, whilst delivering it, by an audience of the most distinguished and brilliant of both sexes, blended with the humbler, but potent classes, whose labours everywhere speaking for them, in the imposing spectacle around, proclaimed at once their industry, and their power, and that without them nothing great or beneficial could ever be achieved.

A portion of the western part of the building had been converted into a temporary saloon for the occasion, by being enclosed with sixteen large and splendid carpets, courteously lent for the occasion by Messrs. Jackson and Graham, and suspended from poles fastened to the girders: the space was entered by an opening of drapery at the east end, and within a platform was erected, whence the professor pointed out the scientific principles on which the building was constructed, and illustrated them by various diagrams and models, well calculated to allay the fears of the timid, and silence the doubts of the sceptical. He then proceeded to various parts of the building to explain the use of the different machines, and was followed by a vast crowd, plunging through mud, scrambling over timber, balancing themselves on joists, and climbing up ladders, in despite of a heavy rain, all eager for information.

The arrangements for the reception and placing of the articles to be sent to the Exhibition necessarily required much calculation. The commissioners, anxious to treat their foreign contributors with all the courtesy and hospitality due to invited guests, resolved to appropriate to their use one-half of the exhibiting space of the whole building; being more than the entire ground which France occupied for her own Exhibition in 1844 and 1845. Over

the admission of British articles, the Commissioners reserved to themselves full power of control ; but the power of admitting foreign articles was confided absolutely to the authority of the country by which they might be sent : they were to be allowed to enter any of our ports free of examination or duties, and everything in the shape of gratuity or subscription, from any foreigner whatever, resident at home or abroad, was scrupulously discouraged and refused : in short, everything was done in harmony with the noble sentiments which Prince Albert had uttered at the splendid banquet given by the Lord Mayor of London, in honour of the projected Exhibition, to such of the chief magistrates of the various towns, cities, and boroughs throughout the United Kingdom, as were enabled to avail themselves of his munificent invitation—sentiments which deserved to be written in letters of gold ; and as they were not framed for that occasion only, but will apply equally to future ages, we will not deny ourselves the pleasure of laying a part of them before our readers :—

" I conceive it to be the duty of every educated person closely to watch and study the time in which he lives, and, as far as in him lies, to add his humble mite of individual exertion, to further the accomplishment of what he believes Providence to have ordained.

" Nobody, however, who has paid any attention to the particular features of our present era, will doubt for a moment that we are living at a period of most wonderful transition, which tends rapidly to accomplish that great end—to which indeed all history points—the realization of the unity of mankind : not a unity which breaks down the limits and levels the peculiar characteristics of the different nations of the earth, but rather a unity, the results and product of those very national varieties and antagonistic qualities.

" The distances which separated the different nations and parts of the globe are gradually vanishing before the achievements of modern invention, and we can traverse them with incredible speed ; the languages of all nations are known, and their acquirement placed within the reach of everybody ; thought is communicated with the rapidity, and even by the power of lightning. On the other hand, the great principle of the division of labour, which may be called the moving power of civilization, is being extended to all branches of science, industry, and art. Whilst formerly the greatest mental energies strove at

universal knowledge, and that knowledge was confined to few, now they are directed to specialties, and in these again even to the minutest points. Moreover, the knowledge now acquired becomes at once the property of the community at large : whilst, formerly, discovery was wrapt in secrecy, it results from the publicity of the present day, that no sooner is a discovery or invention made, than it is already improved upon and surpassed by competing efforts. The products of all quarters of the globe are placed at our disposal, and we have only to choose which is the best and cheapest for our purposes, and the powers of production are entrusted to the stimulus of competition and capital.

"Thus man is approaching a more complete fulfilment of that great and sacred mission which he has to perform in this world. His reason being created after the image of God, he has to use it to discover the laws by which the Almighty governs his creation, and, by making these laws his standard of action, to conquer nature to his use—himself a divine instrument. Science discovers these laws of power, motion, and transformation; industry applies them to the raw matter which the earth yields us in abundance, but which becomes valuable only by knowledge; art teaches us the immutable laws of beauty and symmetry, and gives to our productions forms in accordance with them. The Exhibition of 1851 is to give us a true test and a living picture of the point of development at which the whole of mankind has arrived in this great task, and a new starting-point, from which all nations will be able to direct their future exertions. I confidently hope that the first impression which the view of this vast collection will produce on the spectator, will be that of deep thankfulness to the Almighty, for the blessings which he has bestowed upon us already here below; and the second, the conviction that they can only be realized in proportion to the help which we are prepared to render to each other; therefore, only by peace, love, and ready assistance, not only between individuals, but between the nations of the earth. This being my conviction, I must be highly gratified to see here assembled the magistrates of all important towns of this realm, sinking all their local, and possibly political differences—the representatives of the different political opinions of this country, and the representatives of the different foreign nations—to-day representing only one interest."

CHAPTER III.

APPROACH OF THE TIME FIXED FOR OPENING THE EXHIBITION
—FOREIGN COUNTRIES AND STATES SENDING THEIR CONTRIBUTIONS.

THE first of May was the day originally fixed upon for throwing open the world's wonder to the world's gaze ; and the Commissioners felt themselves pledged to the world at large, to observe the punctuality which is one of the proudest boasts of an Englishman ; and one of the most important characteristics of British commerce, by which, in conjunction with integrity, that commerce stands highest in repute among nations.

The prisoned elms had, despite their strange captivity, already put forth the tender green, with which they are foremost among the denizens of the woods, to greet the sweet though changeful April ; the little birds began to chirrup about the glittering roof, and made sundry efforts, often successful, to penetrate into the interior, through the openings left for air, and to hop once more among the leafy boughs, familiar to them as their homes. Everything announced that spring was rapidly advancing—that May-day was, in fact, close at hand : but how much yet remained to be done, ere she was to be welcomed in the Crystal Palace !

Fifteen thousand contributors, from all parts of the civilized globe, had sent in their specifications, and their claims for space. Waggon after waggon-load of goods were thronging the entrances. Mass after mass of raw material, such, for instance, as a column of coal from North Wales, sixteen tons in weight ; a block of twenty-four tons, ditto material, from Derbyshire ; obelisks and columns of granite ; slabs of Portland and other stones ; grind-stones, flag-stones, mill-stones, huge filters, gigantic cisterns, anchors, chimney-cans, drain-pipes, and similar productions, more useful than ornamental, were, one after another,

taking their "patient stand," on the spots assigned them outside the building ; to the amazement of a crowd of spectators of the humbler classes, who stared at them open-mouthed, wondering, like the Jack Tar, after he had been blown up at a pantomime, by an accidental explosion, and landed safely down again, "what would come next." Not that we mean to quarrel with the *Athenaeum*, "it was a happy decision of the Executive Committee to allow the exhibition of raw materials : it is most instructive to have under the same point of view, the manufactured article, and the stuff from which it was made—the cotton pod, and the calico and muslin—the hempen fibre, and the ship's cable and sails—the elephant's tusk, and the marvellous Indian carvings in ivory—the iron ore, and the Sheffield blades. To us these raw materials, ranged side by side, just as they were picked from the lap of nature, are full of interest. That 'Greek Slave,' now so suggestive of life and beauty, was once a block of marble—the Amazon, once metallic ore—those strings that utter delicious music, were parts of a living animal—the materials of those silken fabrics were all spun by caterpillars—the pearls on that diadem were formed by a shell-fish—those colours that dazzle on the fabrics of India and China are the produce of very humble plants. The distance between the raw material and the perfected work is the measure of the conquest of man over the external world—the record of that victory, which the Crystal Palace first celebrates for the whole human family."

Whilst the objects we have mentioned were attracting the attention of the multitude without, the multitude within were running to and fro, as busy, and almost as numerous as ants in an ant-hill. There were packages opening, goods examining, classing, describing, numbering, ticketing, placing ; scaffolds were disappearing, rubbish removing, outer packing-cases clearing away, fittings of all kinds going on ; excavations for fountains, pedestals

for statues, foundations for machines ; and tables, counters, partitions, and glass cases rising rapidly around. The monster organ was beginning to try its pipes, *sotto voce*, from the western gallery. In the great central avenue was the Amazon of Kiss, levelling her spear at the tiger, neck or nothing, who has seized upon her horse ; further on was a mailed Crusader, of colossal dimensions, about to charge upon his foes ; whilst, utterly guiltless of any such warlike propensities, Lord Eldon, and his brother Lord Stowell, were peaceably seated, in effigy, side by side, as if gazing in placid admiration upon the busy scene before them, within the operations of which assuredly Lord Elgin's favourite motto "*Festina lente*" had nothing to do.

But still the work of the building was going on. Still the hammer and the chisel, the saw and the plane reverberated through the long aisles, and interminable galleries ; the pipes for the supply of water and gas had still to be finished ; the ventilation to be controlled ; some acres of canvas to be spread over the roof ; the chief of the internal arrangements and compartments to be made, and in short, to many it would have appeared as if there were the work of two years to do, instead of as many weeks.

But masters and men were alike indefatigable. Mr. Fox was on the ground every day, from seven in the morning until ten at night. It was calculated that at this period not fewer than ten thousand persons were engaged, some way or other, in the service of the Exhibition. One week, two thousand two hundred and sixty workmen were actually employed in and about the building itself ; and it was in keeping with all the rest of the business details, that the system of payment was so admirably arranged with regard to exactitude and celerity, that out of this number, two thousand received their wages at the close of the day, in one hour, without confusion, noise, or mistake of any kind.

And now rapidly congregated on British ground the

representatives of the different nations, with their respective productions and wares, who had been invited to take their place in the great industrial mart, one of the avowed objects of which was to draw all the families of the civilized world together, in bonds of amity, for their mutual benefit and enlightenment. Thus were these families typified by an ingenious writer, with equal truth of discrimination and playfulness of fancy :—

“ First on the lists were the kingdoms of Arabia and Persia ; with their caravans freighted with rich tissues, and the work of delicate looms from Mushed and Tehran ; with myrrh and frankincense from Hadramaut, ‘ musk from Khoten,’ pearls from the sea of Oman, and *attar gul* from the gardens of Shinar. Then came ‘ small-eyed China ;’ sending her fragile porcelain, her painted screens, her snow-white and crimson silks, her gold and silver stuffs, her paper made of rice, her ivory fans, so curiously carved, and her mother-of-pearl ornaments, so laboriously and exquisitely graven. Brazil and Mexico were ready with diamonds and rich ores, and many-tinted flowers, whose hues were borrowed from the ruby throats and emerald wings of the *colibri*. Turkey held out her jewelled weapons, with their Damascus blades, her perfumed skins, gaudily dyed, and stamped with rare devices, her splendid caparisons, her fragrant and richly ornamented pipes, her costly variegated carpets. Greece, no longer able to astonish the world with the sculpture of Phidias and Praxiteles, or the marvels of Apelles’ art, could vie with her former rulers in the beauty and elegance of her mountain costumes, and the elaborate workmanship she bestowed on weapons now little suited to her hands. Egypt, under the impulse of a newly awakened industry, had drugs, and dyes, and perfumes, soft cottons, and cloths of finest texture, the plumes of the ostrich, and raiments of the camel’s hair. Italy was prepared to display her manufactures from the fertile plains of Lombardy to the sunny cliffs of Sorrento : Genoa, rich in velvets and embroidery ; Bologna, decked in the

gayest silks and ribands ; Rome, proud of her cameos, her mosaics, her false pearls, and her *hats* ; Venice, still famous for her glass, though its occult virtues are flown ; Leghorn, renowned for its everlasting straw-bonnets ; Fabriano, with a paper reputation, not yet torn to pieces, and Ancona, whose waxen images tempt the 'decoratives' to St. Peter's, and whose tapers light them on the way. Spain and Portugal came next, suggestive of every produce that the earth hides in its bosom, or spreads over its surface, though not of the means by which its wealth may be turned to account. Yet who could think of Spain without conjuring up the thousands of interesting objects with which the world's bazaar might be studded ? Who would not expect from Andalusia specimens of the fans and mantillas which the women use with so much dexterity, and wear with so much grace ; the splendid dresses of the *majos* ; the guitars which are in every man's hand, and the castanets which are common to both sexes ? From Valencia—that true paradise on earth—those curious silver-gilt cobs which adorn the Valencian beauties ; those silks and bombasines which form part of their attire ; those beautiful azulejos, or coloured tiles, the art of making which was bequeathed, with so many other secrets, by the Moors ? From Granada, and throughout the southern coast, the rich marbles and minerals susceptible of being wrought into every form of grace or purpose of utility ? From Murcia, the fatal *cuchillo*, and the gaily-striped silken manta ? From Cordova, the silver filigree-work that still keeps its old renown ? From Toledo, those wondrous blades, welded out of a steel whose temper has no equal ? From Barcelona, those goods which (if they do not really come from Manchester), may shame the Manchester manufacturers ? In a word, who would not look from every province of Spain for some rich or rare production which might show, that where nature has been so bountiful, man has not been altogether idle ?

"Nor could the mineral and vegetable wealth for which Portugal is famed, and which, despite of her poverty, she

has the will to fabricate, pass unrepresented. Her marbles, her antique silks, heavy as armour, her cloths and carpets, even her curiously manufactured snuffs, were all ready for exportation. Switzerland followed, with her muslins and gold watches, and her countless specimens of that ingenuity, with which every summer-tourist returns laden, when he delights the family-circle by producing from the depths of his knapsack, now a *chalet* entire, anon a milking-pail; then an egg-cup, a drinking vessel, a salad-spoon, or the costume of every canton, faithfully carved in cherry-tree and boxwood. France—but what does the skill of man create that is gorgeous in colour, graceful in form, rich in substance, delicate in texture, beautiful in pattern, ingenious in construction, or faultless in execution that France might not send forth? To name her chief towns, is to name a competitor for every great prize in the struggle for art's supremacy. The bronzes, the *bijouterie*, the mirrors, and the *meubles* of Paris—the silks, the satins, and the velvets of Lyons—the flaxen threads and linens of Lille—the lace of Valenciennes—the carpets of Beauvais and Aubusson—the prints and muslins of Mulhausen—the watches of Besançon—the porcelain of Sèvres—the enamels of Limoges—the cottons of Amiens and Rouen—the gossamer scarfs of Bareges—the point of Alençon—the broad cloths of Elboeuf and Louviers—the soaps of Marseilles—the dyes and perfumes of Carcassonne, Montpelier, and Hyères—to say nothing of the thousand creature comforts which find no place in the Exhibition itself, though truffled turkeys, Chartres, Perigueux, and Strasbourg pies, Orleans quinces, Tours plums, and many a delicacy besides, are not prohibited in the refreshment rooms; while the vintages of Burgundy, Champagne, the Rhone, and the Garonne, are not to be had any nearer than Monsieur Soyer's monster *restaurant*; all these things, whether to delight the eye or please the taste, might reach the Palace of Industry from all-producing France!

“Belgium, in many things the formidable rival of her

southern neighbour, succeeded, decked like a bride, in Mechlin and Brussels lace, or richly arrayed, like a burgomaster's wife, in the ponderous silk of Antwerp, and beneath her feet the priceless carpets of Tournay, in whose soft fabric those feet were completely buried. She pointed to Ghent for her cotton manufactures, to Vervier for her cloths, and gazed with pride on Liege, as the emporium of her cutlery and fire-arms, where the attributes of Sheffield and Birmingham are united. Holland, the elder sister of Flanders, moved onward with dignified, but measured pace, proud of her rich spices, strong waters, and rare cordials, and prouder still of the gorgeous tulips in her garden, for which her sedate money-making husband has given, in hard guilders, more than a king's ransom.

"Germany next presented herself under three different aspects :—the northern division bearing her own name—a vast conglomerate called the Zollverein—and Austria, resolute in keeping aloof, unless she could cast her net over everything else, from the shores of the Baltic to the banks of the Po; and dictate one universal law to Germans and Italians, Slaves, Croats, Czeeks, and Hungarians. Manifold are the productions of the Teuton and Sclavonian races.

"Berlin has wealth of iron, fit metal for a people so warlike; Eberfeld dresses half the world in its dyed cottons; Cologne displays her *flacon*; Solingen balances the foil, and proves the well-tempered blade of the 'Schläger,' renowned in the 'renownings' of Germany's bellicose students; Magdeburg modestly appeals to her various merchandise; Bremen takes upon herself the task of preparing the tobacco which all the rest of Germany smokes; and Dresden paints the bowls of all the German pipes; Leipzig manufactures books which this year nobody will have time to read; Meissen gives birth to the shepherds and shepherdesses who exist only on consoles and chimney-pieces; Frankfort has her own fair, but that attraction must cease for a time; Nuremberg still vaunts her

toys, though the marvellous works of Kraft, of Adam Vischer, and of Wentzel Jamitzer, belongs to a past age; Munich has sculpture, and bronze, and stained glass, and glowing frescoes, and bright mosaics; and the simple Tyrolese rivals the Switzer's patient labour on the long winter nights, when all other occupation ceases. Surely the things we have spoken of, and more, the things we have left unnamed, were to be gathered in Germany.

"There are yet more names on the list. Scientific Denmark, with her accurate instruments for measuring time and space. Learned Sweden, a *hortus siccus* in her hand, and a medallion of Linnæus on her breast. Half-civilized Russia, with a Paris bonnet on her head, a bear-skin on her shoulders, in the midst of which blazes a diamond star, and beneath which shines a brazen cuirass, a long cut-and-thrust sword by her side, seven-league boots, well garnished with spurs on her lower limbs, in either clutch grasping a knout and a pair of curling-irons, and her whole person reflected in one of her own looking-glasses, before which she admiringly stands. She is rich in gold and platina, and malachite, in furs, in tallow, and in hemp, and through one or other of these media, is prepared to contribute to the world's industry.

"Of foreign lands America comes last. Follow the course of her rivers, examine her sea-board, track her footsteps across the prairies and rocky-mountains—follow her into the Far West, amidst falling forests and flying Indians,—cross her immense lakes, whirl with her through her swamps and savannahs, or pause amidst her rising and risen cities, and ask what variety of manufacture exists which the enterprise, and toil, and acuteness of the United States cannot supply, with little to fear from the result of universal competition.

"To give the rest of the world its chance, the British colonies had their assigned space; every zone of the earth, and every temperature beneath the sun, received the command to exhaust their riches and lay them at the feet of Queen Victoria."

But whilst poetic minds were thus revelling in the anticipations of the probable, practical ones were no less busy with the actual. All London was to be "repaired and beautified," according to the memorials of the churchwardens. The names of streets were all to be repainted, with directions at the corners, and hands significantly pointing out every finger, stretched to the utmost of its powers of extension, to denote leading here, leading there, for the peculiar edification of foreigners; lest they should become bewildered among the mazes of Leicester-square, or the more aristocratic, and, to those who cling to old associations, dreadfully monotonous, and coldly genteel straight lines of Hyde Park Gardens. Nor ought we to lose sight of the truth, that these directions are just as much required for "country cousins," wandering about St. Paul's, in search of the Houses of Parliament; or honest gentlemen-farmers, threading, or trying to thread their way from Smithfield to the Bank, as for the numerous host of whiskered foreigners, who stare about them in the great city, divided between admiration of its vastness, and disgust at the difficulties it presents to those unused to "Life in London."

"The plot, moreover," continues the lively narrator, "began to thicken. Shabby shop-fronts were removed, and bronze and plate-glass supplied the place of painted wood and dingy panes. The boot-makers made models of their customers' favourite legs, and paraded them in tops and buckskins, in gigantic wide-mouthed tubes that passed for hunting-gear, and in delicate silk and French polish for evening parties. The tailors, who were very particular in stating that *there* they spoke every language under the sun—Français, Deutsch, Espanol, Italiano and Cherokee—got up the most bewildering dressing-gowns, the hairiest and most poodle-like paletots, the sportinest waistcoats, the tightest and most expansive ladies' habits, the most elaborate dress coats, and the most impossible waistcoats. They took it into their heads that the inhabitants of France and Germany were coming to

London in the costumes which their ancestors wore when they fought with Caesar and Agricola, and filled the columns of the *Times* and *Morning Chronicle* with advertisements, setting forth, in elegant French, the fact that ‘des commis, réunissant le tact et l’intelligence aux bonnes manières, sont constamment à la disposition des visiteurs;’ or in less palatable German, the similar assurance, addressed to the ‘Publicum und Fremde,’ that ‘zu jeder zeit stchen hächtige und verständige Assistenten bereit jede Auskunft über alle Geschäft betreffenden Gegengtände zu ertheilen,’ to receive and execute the orders they might be favoured with.

“As a sign of the times, the Hôtel d’Italie, in Sherrard-street, painted its doors and window-sills sky-blue, and prepared for a most terrific gastronomic campaign; the Sablonière announced its *table d’hôte* at six o’clock, and inwardly resolved not to give a new coat of paint to anything; while the Provence Hotel gave out the startling intimation that ‘restauration à la carte’ was incessant in that establishment. Even the old-fashioned chop-houses in the Strand and Haymarket began to look about them; the ‘Boars’ and ‘Castles’ whetted their tusks, and threw open their portals; the ‘Belles Sauvages’ looked amiable; the ‘Queen’s Arms’ expanded hospitably; the ‘Blue Posts’ declared themselves fixtures; ‘Williams,’ who (perfidiously) came from ‘Betsy’s,’ intimated his resolve to supply luncheons and dinners on his own account; and ‘Mrs. Robertson,’ who has been residing for the last century with ‘Dr. Johnson,’ in Fleet-street, abandoned the great lexicographer, and set up housekeeping for herself in Maiden-lane. Nor were the creature-comforts alone considered. The head was cared for, and the feet also: for the sake of the former, the St. George’s Chess Club announced ‘a grand chess tournament;’ and for the behoof of the latter, a brigade of shoeblocks turned out from the ragged-school in Field-lane, in scarlet jackets of the most astonishing brilliancy.

“The interpreters began to look up, and those who had

lodgings to let, not only looked up, but also very considerably ahead. They were right in doing so, for John Bull's preparations were not without a cause. It was no longer the Quadrant and Leicester-square that exhibited signs of the friendly invasion, but, in all directions, foreigners surged up, affording convincing proof of their anxiety to see the latest wonder of the world, to applaud the design of Prince Albert, render homage to the genius of Paxton, and admire the unwearied industry and zeal of Messrs. Fox and Henderson.

"Shoals of the 'Bruderschaft' also appeared; fervid Italians, in bands like brigands or opera singers, from every part of their genius-favoured land, hurried to London; and Switzerland emptied her valleys to inundate Regent-street.

"The *St. Lawrence* frigate, not only brought her overwhelming contribution of dry goods, but something dryer still,—in the person of the president of 'The everlasting Gold Bluff Sand Company,' who had taken a passage in her from New York, and came—like his compeers from Paris—to see whether 'a pretty smart spekilation in dust' was likely to answer in Britain; and firmly resolved that it shouldn't 'cave in,' if he could prevent it. Nor was his project by any means a solitary one; for whether he came from the 'diggings' on the Sacramento, was raised in pleasant Texas, or had served his time in the 'Tombs,' at New York, brother Jonathan helped himself on with his shiniest coat, and fetched across the Atlantic, to see whether he couldn't 'make a pile somehow' among the Britishers. Not a weekly steamer ran up the Mersey that did not bring a full cargo of strangers from every one of the unions waved over by the 'star-spangled banner'; not a packet showed its flag on the Southampton Water that was not crowded with a living freight of dusky Spaniards, and duskier Portuguese; of swarthy Moors, and swarthier Egyptians; of cane-coloured East Indians, and copper-coloured Tartars; of Mulattos, with complexions of a lively brown, and of

Haytians, with countenances—such as Solomon loved—of a lovely black. At Dover and Folkstone, and eke at the Tower-stairs, steamer after steamer arrived with the bearded civilization of Europe. There was ‘your straw-coloured beard,’ representing Russia, Norway, Sweden, and the whole of the north of Germany; ‘your orange-tawny beard,’ those who dwell on the Rhine and its tributaries; and your ‘purple-in-grain beard,’ our excellent democratic neighbours the French, who speak their own language so well, and every other tongue so badly. There was, in fact, an assortment of beards more than enough to satisfy the cravings of a dozen monopolists like Bottom the weaver, and these were to ‘wag all’ in the Crystal Palace, in the merry month of May.”

In the meanwhile the “note of preparation” was busily and incessantly going on at the principal scene of action; “the sound of hammers closing rivets up” rang through the air “from morn till noon, from noon till dewy eve,” startling the Dryads and Hamadryads among the venerable shades of Hyde Park and Kensington—the “busy hum of men” throughout the spacious interior of the rising wonder, was like the murmur of bees at their busiest season in their “waxen citadel;” and the rapidity and precision with which the combined labour advanced, outstripped the most sanguine expectations. The astonishment and delight of the public were unbounded; praises were lavished on all sides—on the projectors, the inventor, the architect, and the workmen employed; the name of Paxton was in everybody’s mouth; all the journals, daily, weekly, and monthly, were eloquent on the subject. The all-engrossing theme found its way, through their medium, to every corner of the empire, to the remotest quarters of the globe. An eloquent writer in *The Times* thus describes the sudden and brilliant apparition:—

“The vast fabric may be seen, by any one who visits that part of town, in its full dimensions—an Arabian Night’s structure, full of light, and with a certain airy unsubstantial character about it, which belongs more to

enchanted land than to this gross material world of ours. The eye, accustomed to the solid heavy details of stone and lime, or brick-and-mortar architecture, wanders along those extended and transparent aisles, with their terraced outlines, almost distrusting its own conclusions on the reality of what it sees, for the whole looks like a splendid phantasm, which the heat of the noon-day sun would dissolve, or a gust of wind scatter into fragments, or a London fog utterly extinguish. There, however, the Crystal Palace remains, a monument of the extent to which lightness of structure can be combined with permanence and strength—a building remarkable not less for size than for the beauty of mathematical proportions and rectangular outlines. The varied dimensions and fantastic features of other edifices, there find no parallel. Everything is done by the rule, and yet everything is graceful, and it might almost be said grand. Wherever one stands no disagreeable effects present themselves—nothing crooked, awkward, or out of place. The subordination of parts to the whole is complete, and an expression of order and exactitude reigns throughout, not unaptly typical of the progress which the mechanical sciences have made in this country. But for that progress the Crystal Palace could never have been constructed; and it certainly is curious to reflect, now that the work has been accomplished, and the great result stands patent to the world, that, with the facilities we possessed, glass and iron have hitherto been so little employed by our architects.

"Like many other structures which will readily suggest themselves to the mind of the reader, the Crystal Palace must be viewed from a distance to be appreciated. Whoever would see a great mountain to perfection, must not survey it immediately from its base, and on exactly the same principle the new edifice in Hyde Park cannot be well viewed from the Kensington-road. The drive along the Serpentine, and the bridge over it, are the best points for a spectator to select. There the ground rises, and the vacant space enables the eye to reach over a large propor-

tion of the building. The trees partly shut out the prospect, but enough remains to astonish and to captivate. The vast extent of area covered, the transparent and brilliant character of the structure, the regular and terraced elevations, the light airy abutments, the huge transept, with its arched and glittering roof shining above the great vitreous expanse around it, and reminding one of nothing that he has ever heard of before—all these things are worth seeing."

As the time drew near for the opening of the "World's Wonder," and the various products of various climes, as we have already stated, were pouring into the vast emporium, the bustle and activity of the neighbourhood, nay, of all London and its vicinity, increased in ten-fold proportion; carts, waggons, and trucks, loaded with every species of merchandise and manufacture, from the ponderous steam-engine, requiring sixteen horses to impel its course towards the park, to the most delicate manufacture of ornament or attire, thronged in apparently inextricable confusion all the avenues leading to the appointed place of rendezvous; shoals of omnibuses, crammed to excess, inside and out, frequently got blocked up in immense masses, while the hapless drivers

* * * * "harder beset

And more endangered, than when Argo passed
Through Bosporus, betwixt the justling rocks,"

in vain endeavoured,

"Through the shock
Of fighting elements,"

to win their way. So great was the occasional "hubub wild," "the stunning sounds and voices all confused" that assaulted the ear, that many foreigners stood aghast, and were altogether unable to proceed, or even to understand in what direction to shape their course. An Italian lady of our acquaintance, witnessing a scene of this kind in the neighbourhood of the Mansion-house, compared our metropolis to six enormous cities all conglomerated into one,

and of which all the inhabitants were, at the same point of time, eagerly occupied in changing their lodgings. To attempt at these periods to cross the streets was a hazardous and a bewildering task for the pedestrian; many were the "hairbreadth 'scapes" that we witnessed, and many the abortive attempts to "change sides"—relentlessly onward rolled the living tide, and waited not for individual accommodation. *Forward!* was the emphatic word that seemed to actuate the determination of every one in their pilgrimage westward, and how greatly this desire increased, and how greatly the multitudes augmented their forces on the eventful day of opening, we shall have occasion to show in our next chapter, which we accordingly propose to dedicate to that memorable event.

CHAPTER IV.

THE OPENING OF THE EXHIBITION.

THURSDAY, the 1st of May, the auspicious day, at length arrived—the day originally fixed upon for the great event arose with unwonted brilliancy; the sun, "rejoicing as a giant to run his course," had scarcely shed his earliest beams upon the countless towers and spires of the mighty metropolis, ere its myriad population were afoot, all eager for the long-anticipated spectacle, the brilliant pageant, when England's queen, attended by the noblest and proudest of the land, should in her own person open to the admiring world a palace more glorious than the sumptuous abodes of royalty—a palace devoted to the combined industry and art of every various nation upon the face of the habitable globe. May-day has ever been memorable in our island, and many are the eulogiums bestowed upon it by our native poets, from the time of old Chaucer and

Spenser to our bards of modern date; but never did it witness a spectacle more imposing, a pageant more brilliant, or a multitude assembled in its honour more numerous and rejoicing. As early as six o'clock the whole town was in motion; from every portion of the suburbs, along every street and avenue leading westward, the countless thousands pressed onwards, in orderly and continuous march; every face was turned in one direction, and the incessant tramp of the joyous multitude, as they wended their way towards the spacious parks, was regular and unbroken.

In the more immediate vicinity of the Crystal Palace, the grand centre of attraction, every space was occupied where human foot could be planted; a sea of heads extended over the whole of St. James's Park, along Constitution-hill, through Knightsbridge, and Rotten-row, whose owners were all intent to catch a glimpse of royalty, and to testify their loyal feelings and their gratitude by repeated cheers and notes of gratulation. Every house that commanded a view of the procession was crowded with spectators; the very roofs teemed with life,—

“Each jutting frieze, and corner stone,”

supported its delighted gazer; and when the procession emerged from the arch at the top of Constitution-hill, enthusiastic shouts and animated cheerings rent the very air, while on every side the waving of innumerable handkerchiefs and hats saluted the gorgeous pageant as it swept proudly onwards.

At a quarter before twelve, the royal procession reached the northern entrance of the Crystal Palace, and was greeted with the national anthem of “God Save the Queen,” from the band in attendance at the building. The scene at this moment became inexpressibly animated; the cannon stationed on the banks of the Serpentine, from their “brazen throats,” sent forth a thundering welcome, emulated by the joyous shouts of the applauding multitude; while “the merry bells rang round,” the union-

jack was displayed in triumphant exultation, from every elevated point, to greet the entrance of her Majesty within the precincts of the glittering palace, and the royal standard was at the same time displayed floating proudly above the hundred and one flags of all nations, with which the building was decorated.

A popular journal gives the following description of the admission of the public within the favoured precincts :—

"The hour fixed for the opening of the various doors to the holders of season tickets was nine o'clock; but long before that time every possible point of access to the building was thronged with well-dressed persons—a great proportion of them ladies—eagerly waiting for admission. Considering the immense number who eventually were admitted—some twenty-five thousand or thirty thousand at least—the proceeding was conducted with wonderful order and regularity, and with much less personal inconvenience than generally attends the congregating of large assemblies. The first *coup d'œil* of the building on entering the nave was grand and gorgeous in the extreme: the vast dimensions of the building; the breadth of light, partially subdued and agreeably mellowed in the nave by the calico coverings placed over the roof, whilst the arched transept soared boldly into the clear arch of heaven, courting, admitting, and distributing the full effulgence of the noonday sun; the bright and striking colours and forms of the several articles in rich manufactured goods, works in sculpture, and other objects displayed by the exhibitors, dissimilar and almost incongruous in their variety, were blent into an harmonious picture of immense grandeur, by the attendant circumstances of space and light to which we have just alluded; and the busy hum, and eager and excited movements of the assembled thousands, infused the breath of life into a picture which, at the period of the crowning incident of the day, became truly sublime.

"The centre area of the intersection of the naves and transept was that set apart for the reception of her Majesty and her Court, and the other distinguished persons who were to take part in the interesting ceremonies of the day. At the northern portion of this area a dais was erected, covered with a splendid carpet, worked by one hundred and fifty ladies for her Majesty, and graciously accepted by her; and upon this was placed a magnificent chair of state, covered with a velvet robe or mantle of crimson and gold. High over head was suspended an octagon canopy, trimmed with blue satin and draperies of blue and white. Before the chair rose the beautiful glass fountain, glittering as a precious stone in the morning beams. Behind rose the stems of the Oriental plants and the stately elm, one

of the most agreeable and refreshing parts of the whole view. Along the galleries of the main western avenue, the department for British goods, a succession of the most beautiful carpetry was suspended, like bannerets, only more splendid, in a knightly hall of old. Along the foreign avenue everything stood revealed in its best; and the vista along the whole line was perhaps the most splendid and extensive, as a piece of art and human contrivance, ever presented to human view.

"As eleven o'clock approached, the hour at which the admittance of the public terminated, the inward tide became very heavy, and some little struggling at one moment was given way to, but only for a moment. The immense mass of spectators were settled down into their places, the ladies having seats in front, the gentlemen standing behind them, along the principal avenues, and in the galleries.

"The Duke of Wellington was early in attendance, arriving, with the Marchioness of Douro, about ten o'clock; and the knowledge that it was his grace's birthday, perhaps contributed to increase in volume and warmth the hearty cheering with which he was greeted as he passed to his place near the central area. Shortly afterwards, the members of the *corps diplomatique* and the foreign commissioners began to drop in, and after them the members of the Cabinet, a faint cheer being attempted for Lord John Russell, and another for Lord Palmerston; the latter, with true statesmanlike policy, thinking to ensure the harmony of his reception amongst the industrial representatives of the world, by walking up the transept under the portly wing of Lablache, who looked as good-humoured as ever. Nearly the latest of the arrivals at the north entrance was the Lord Mayor and Aldermen, with various civic authorities, all decked forth in their robes of office.

"By this time the honourable corps of Gentlemen-at-Arms, in their gay uniforms, had taken up their stations at the rear of the dais, whilst the time-honoured body of Beefeaters were ranged along the outer line of procession. The trumpeters and heralds stood ready to proclaim the arrival of the Queen of these isles, and the heralds to marshal the order of her coming. Meantime, Sir George Smart stood, *baton* in hand, perched up in a small rostrum, in front of the north transept organ gallery, ready to beat time to 'God save the Queen,' for the five-hundredth time in his life. Meantime the Lord Chamberlain and his subordinate officers glided about, looking very well satisfied with all their arrangements, and Mr. Commissioner Mayne was here, there, and everywhere, smiling so good-humouredly as for the moment to rob even police law of its terrors. Everybody was on the tip-toe of expectation for the arrival of the royal personages who were to grace the day with their attendance.

"At half-past eleven the Duke of Cambridge arrived at the north door, but did not enter the area, awaiting the arrival of the duchess of Kent, who, accompanied by the Princess Mary of Cambridge, fol-

lowed shortly after him. Their royal highnesses now entered the retiring-room, which had been prepared for her Majesty's reception, an elegant little apartment, covered with tapestry, and lined with silk, pale blue and white, fluted, with a crown overhead in the centre. The Commissioners and foreign ministers now made their way down to the entrance hall, ready to pay their respects to her Majesty on her arrival. Exactly at ten minutes to twelve, the Queen and her Royal Consort, accompanied by the Prince of Wales and the Princess Royal, alighted from their carriage; and after repairing to the retiring-room, proceeded to enter the magnificent edifice of the production of which his royal highness had been the chief promoter. The Queen wore a dress of pink satin, brocaded in gold; Prince Albert, a field-marshall's uniform; the Prince of Wales, a highland dress; and the Princess Royal, a white lace dress, with a wreath of flowers round her head. The royal party, especially the young Prince and Princess, appeared much struck and delighted with the stately grandeur of the scene which burst upon their view. A tremendous burst of cheering, renewed and prolonged from all parts of the building, greeted the announcement of the near approach of the Queen."

And, unquestionably, neither Eastern fairy tale, nor Arabian Night's wonder, could surpass, or even emulate the gorgeous reality that greeted the delighted gaze of the assembled spectators, as the royal party and brilliant cortége advanced through the bronzed and gilded gates that led into this hall of enchantment; fragrant exotics bloomed and shed their soft perfume around, crystal fountains threw up their sparkling waters, the choicest statuary formed graceful avenues of approach, while the clarion and shrill trumpet "brayed forth" "the triumph" of the hour. And when the Queen was seated in her lofty chair of state, surrounded by "the pride of all the land," nobles, dignitaries of the church, heroes, and statesmen, and attended by the representatives of "principalities and powers" from every quarter of the globe, the national anthem, from "the full-voiced choir," swelled upon the ear, and accompanied by "the pealing organ," floated in harmonious accord beneath the high vaulted and unrivalled dome.

After a speech from Prince Albert, as the head of the Commission, addressed to the Queen, explaining the

nature and purposes of the Exhibition, and stating that it was the heartfelt prayer of the Commissioners that the undertaking, which had for its end the promotion of all branches of human industry, and the strengthening of the bonds of peace and friendship among all the nations of the earth, might, by the blessing of Divine Providence, conduce to the welfare of her Majesty's people, and be long remembered among the brightest circumstances of her Majesty's peaceful and happy reign;—and after the gracious reply from her Majesty, stating her entire satisfaction, and her increasing interest in their proceedings, together with her cordial sympathy in the good wishes they expressed, the Archbishop of Canterbury read the following prayer, or benediction:—

“ Almighty and everlasting God, governor of all things, without whom nothing is strong, nothing holy, accept, we beseech Thee, the sacrifice of our praise and thanksgiving, receive our prayers which we offer up to Thee this day, in behalf of this kingdom and land. We acknowledge, O Lord, that Thou hast multiplied the blessings which Thou mightest most justly have withheld; we acknowledge that it is not because of the works of righteousness which we have done, but of Thy great mercy, that we are permitted to come before Thee this day with the voice of thanksgiving. Instead of humbling us for our offences, Thou hast given us just cause to praise Thee for Thine abundant goodness. And now, O Lord, we beseech Thee to bless the work which Thou hast enabled us to begin, and to regard with Thy favour our present purpose of uniting together in the bond of peace and concord the different nations of the earth; for of Thee, O Lord, and not of the preparation of man, it cometh that violence is not heard in our land, nor contentions nor violence within our borders. It is of Thee, O Lord, that nation does not lift up sword against nation, nor learn war any more. It is of Thee that peace is within our walls, plenteousness within our palaces, and men go forth in safety, and that knowledge is increased throughout the world. Therefore, O

Lord, not unto us, but unto Thy name, be all praise. Whilst we survey the works of art and industry which surround us, let not our hearts be lifted up that we forget the Lord our God, or that it is not of our own power, or of the might of our hands, that we have gotten in this wealth. Teach us to remember that this store which we have prepared is all Thine own; in Thine hands it is to make great and give strength and honour. We thank Thee, we praise Thee, we entreat Thee to overrule this assembly of many nations, that it may tend to the advancement of Thy glory, to the increase of our prosperity, and to the promotion of peace and good-will among the different races of mankind. Let the many mercies we have received dispose our hearts to serve Thee more and more, who art the author and giver of all good things. Teach us to use those earthly blessings that Thou hast given us so richly to enjoy, that they may not withdraw our affections from those heavenly things which Thou hast prepared for them that love Thee, through the merits and mediation of Thy son Jesus Christ, to whom, with Thee and the Holy Ghost, be all honour and glory, world without end. Amen."

At the conclusion of this prayer, Handel's magnificent Hallelujah Chorus thundered its powerful harmonies to the gratified ear, and completed the solemn and religious character of the ceremony, which, to those who were gratified in witnessing it, will not readily be effaced from their memory.

The Royal procession was then formed in the following order:—

Heralds.

Architect, Joseph Paxton, Esq. Contractor, Mr. Fox.

Superintendents of the Works—C. H. Wild, Esq.; Owen Jones, Esq.

Financial Officer, F. H. Carpenter, Esq.

Members of the Building Committee—I. K. Brunel, Esq.; Charles Cockerell, Esq.; Professor Donaldson.

Members of the Finance Committee—Samuel Peto, Esq.; Sir Alexander Spearman, Bart.

Treasurers—Baron Lionel de Rothschild, William Cotton, Esq.; Sir John William Lubbock, Bart.; Arthur Kett Barclay, Esq.

Secretary to the Executive Committee, Mathew Digby Wyatt, Esq.

Executive Committee—George Drew, Esq.; Francis Fuller, Esq.; Charles Wentworth Dilke, jun., Esq.; Henry Cole, Esq.; Lieut.-Colonel William Read, Royal Engineers, C.B.

FOREIGN ACTING COMMISSIONERS.

Austria—M. C. Buschek, Chevalier de Burg.	Russia—M. Gabriel Kamensky.
Bavaria—Professor Dr. Schafhault, M. Theobald Boehm, M. Haindl.	Sardinia—Chevalier Lencisa.
Belgium—M. Charles Caylits, M. de Broucken.	Saxony—Dr. Seyffarth, L.L.D.; M. Gustavus Dorstling.
Denmark—Regnar Westenholtz.	Spain—M. Manuel de Ysasi, M. Ramon de la Sagra, M. Ramon de Echevarria.
France—M. Sallandrouze de Lamornnaix.	Sweden and Norway—M. Chas. Tottie.
Grand Duchy of Hesse—M. Rossler	Switzerland—Dr. Bolley, M. Eichholzer.
Greece—M. Ralli.	Tunis—Signor Hamda Elmakkadem, M. Santillana (interpreter and secretary).
Hanse Towns—M. Piglheim.	Turkey—M. Edward Zohrab.
Holland—M. Goethens, M. J. P. Dudok van Hal.	Tuscany—Dr. Corridi.
Northern Germany—M. Noback.	United States—Mr. Edward Riddle, Mr. N. S. Dodge (secretary).
Portugal—M. F. J. Vanzeller, M. Antonio Valdez.	Wurtemburg—Mr. C. Brand.
Prussia—Baron Hebele.	Zollverein—M. Ban Rath Stein.
Rome—Signor Carlo Trebbi.	
Secretaries to the Royal Commission—Edgar A. Bowring, Esq.; Sir Stafford H. Northcote, Bart.; J. Scott Russell, Esq.	
Special Commissioners—Dr. Lyon Playfair; Lieut.-Colonel Lloyd.	

HER MAJESTY'S COMMISSIONERS.

Mr. Alderman Thompson.	John Gott, Esq.	Earl Granville.
R. Stephenson, Esq.	Wm. Cubitt, Esq.	Earl of Rosse.
Wm. Hopkins, Esq.	Thomas Bazley, Esq.	Sir. C. L. Eastlake.
T. F. Gibson, Esq.	Thomas Baring, Esq.	Rt. Hon. W. E. Gladstone.
Richard Cobden, Esq.	Sir Charles Lyell.	Lord John Russell.
Charles Barry, Esq.	Sir R. Westmacott.	Lord Stanley.
John Shepherd, Esq.	Rt. Hon. H. Labouchere.	Earl of Ellesmere.
Philip Pusey, Esq.	Lord Overstone.	Duke of Buccleuch.

Her Majesty's Master of the Ceremonies.

Foreign Ambassadors and Ministers.

F. M. the Duke of Wellington, K.G., Commander-in-Chief.	F. M. the Marquis of Anglesey, K.G., Master-General of the Ordnance.
---	--

Her Majesty's Ministers.

His Grace the Archbishop of Canterbury.

White Wands: viz., Comptroller of the Household.

Treasurer of the Household.

Vice Chamberlain.

Lord Steward. Lord Chamberlain.

Garter Principal King of Arms.

His Royal Highness Prince Albert, leading Her Royal Highness the Princess Royal.

The Queen, leading his Royal Highness the Prince of Wales.

His Royal Highness the Prince of Prussia.

Her Royal Highness the Duchess of Kent.

His Royal Highness Prince Henry of the Netherlands.

Her Royal Highness the Princess of Prussia.

His Royal Highness Prince Frederick William of Prussia.

Her Royal Highness Princess Mary of Cambridge.

His Serene Highness Prince Edward of Saxe Weimar.

His Royal Highness the Duke of Cambridge.	
Mistress of the Robes.	
Lady of the Bedchamber, Marchioness of Douro.	
Lady of the Bedchamber in Waiting.	
Maid of Honour in Waiting.	Maid of Honour in Waiting.
Bedchamber Woman in Waiting.	Lady Superintendent—Lady Caroline Barrington.
Foreign Ladies, and Lady in attendance on H. R. H. the Duchess of Kent.	
Gold Stick in Waiting.	Master of the Horse.
Groom of the Stole to H. R. H. Prince Albert.	
Captain of the Yeomen of the Guard.	Captain of the Gentlemen at Arms.
	Master of the Buckhounds.
Lord of the Bedchamber to H.R.H. Prince Albert	Lord in Waiting to the Queen.
Albert in Waiting.	
Groom of the Bedchamber to H.R.H. Prince Albert in Waiting.	Groom in Waiting to the Queen.
	Clerk Marshal.
Equerry to H.R.H. Prince Albert in Waiting.	Equerry to the Queen in Waiting.
Gentleman Usher.	Gentleman Usher to the Sword of State.
Silver Stick in Waiting.	Field Officer in Brigade Waiting.
The Gentlemen in attendance upon their Royal Highnesses the Duchess of Kent, the Duke of Cambridge, and the Prince and Princess of Prussia.	
	Heralds, &c.

Our journalist continues as follows :—

“ The royal procession went up to the west end of the nave by its north side, returning to the east end of the nave by its south side, including the south end of the transept; and coming back to the centre along the north side of the nave, all present were thus excellently well enabled to see her Majesty and the procession.

“ During the procession, and at the Queen’s approach, the organs in the British division, built by Messrs. Willis, Walker, and Hill, of London, and those by foreign importers, Du Croquet (Paris) and Schulze (Erfurt), were successively played.

“ On her Majesty’s return to the platform, the Queen declared ‘the Exhibition opened!’ which was announced to the public by a flourish of trumpets and the firing of a royal salute on the north of the Serpentine. The barriers, which had kept the nave clear, were then thrown open, and the public were allowed to circulate, which they by no means appeared disposed to do, as they were all crowding towards the glories of the transept.

“ Her Majesty then returned to Buckingham Palace by the route by which she came, and all the doors, which had been closed at half-past eleven o’clock, were again opened.

“ Throughout the whole of the Queen’s traverse of the building, her face was wreathed with smiles and pleasant looks, and her Majesty evidently took a more than common interest in the brilliant spectacle which everywhere attracted her notice. The Queen wore a

rich embroidered pink satin dress set with precious stones, and a tiara of diamonds on her head. Prince Albert wore a field-marshall's uniform.

"The Duke of Wellington and Marquis of Anglesea attracted much attention, the duke supporting himself on his more aged companion, while both seemed highly gratified in their tour of inspection. We must also remember the droll Chinese mandarin amongst the foreign ambassadors and ministers, who swayed along from side to side, those before and those behind him, leaving a pretty full berth for his comical progress.

"Let our last words respecting this truly national festival be commendatory to those who originated and perfected it. No event—not even the coronation of our monarch—had ever more strongly called forth public expectation; and none, we will at the same time affirm, has ever more completely fulfilled it.

"The ceremonial was one, it may be said, without precedent or rival. The homage paid by the sovereign of the widest empire in the world to the industry and genius of both hemispheres, will not fill a page in history as a mean and unsubstantial pageant. While the race of man exists, this solemn and magnificent occasion will not readily fade away from his memory like the 'baseless fabric of a vision,' it commences an era in which the sons of toil shall receive honour and reward; and, in accordance with the spirit of the day, it stimulates the energies of man to conquer 'fresh domains,' and discover new faculties of nature and her products, for the well-being and use of his fellow-creatures.

"Of itself, as a passing display of state, pomp, and power, we cannot speak too highly; for even Oriental gorgeousness fades in comparison with the glories of the unequalled temple which enshrines the Exhibition of all Nations in Hyde Park."

CHAPTER V.

PREPARATORY ARRANGEMENT—REFRESHMENT ROOMS—"MONSTER" LODGING HOUSE—PRICES OF ADMISSION—THE FOUR GRAND SECTIONS.

HAVING accompanied our readers through all the pageantry we have described in the preceding chapter, and conducted them safely through the toils and glories of the

day, we shall now take a more leisurely survey of the wondrous structure, and proceed to examine into the various accommodations and arrangements that were made, as well for its numerous visitors, as for the reception of the treasures of industry, art, manufacture, and native produce, that were destined to flow into its mighty reservoirs from every portion of the habitable globe.

As all the world received cards of invitation to "assist," as the fashionable phrase is, in the grand parties that diurnally were expected to assemble within the ample area of the Crystal Palace, and as every facility was afforded, even for the humblest classes, to travel up and down from all parts of the empire, to gratify their longings to participate in the view of the "World's Wonder," it became a point of necessity that sufficient accommodation should be prepared within its hospitable walls for rest and refreshment for all, and more particularly for those who had travelled far from their homes, and whose limited time, as well as means, would not permit them to wander backwards and forwards in search of such necessary "creature comforts" as are indispensable for the support of our natural bodies, even when we are engaged in the delightful toil of making a business of our pleasure. "Ample space, and verge enough," were therefore granted for extending, at a very moderate remuneration, the rights of hospitality towards those who either through necessity or choice, were inclined to participate in them. Moderation, however, was the motto that was adopted; for the commissioners very properly thought that "it would be inconsistent with the nature of the Exhibition, to allow the building to assume the character of an hotel, tavern, or dining-room. Wine, spirits, beer, or intoxicating drinks, were expressly forbidden; but then tea, coffee, chocolate, cocoa, lemonade, ices, ginger-beer, seltzer and soda-water, were allowed to circulate in abundance; and in more solid requirements, cold meats, sandwiches, patties, pastry, fruits, with humbler bread and cheese, were liberally provided.

That these "dainties" were not expected to be unac-

ceptable to the thirsty throats and keen appetites of the multitude, is evident from the tenders made for their supply. For the privilege of vending refreshments, together with soda-water, *et hoc genus* of potables, Messrs. Schwebeppe and Co. paid the sum of £5,500! Upwards of 2,000 dinners were daily calculated upon in the various spacious areas destined for the hungry guests, whose fare, however, was limited to cold meat and steamed potatoes, as cooking was strictly prohibited in every part of the building. These areas were three in number: the central, the eastern, and the western; the space occupied by the first of these divisions, including all the passages, lobbies, &c., was not less than 17,756 square feet. The eastern refreshment court contained 19,008 square feet, and the western 12,096 square feet. And yet, so small was the actual extent of these capacious halls, in comparison with the vast proportions of the whole edifice, that many parties frequently wandered about, "with fainting steps and slow," a considerable time before they could find, among the intricacies of the building, these festive courts, and often required the friendly aid of some kind policeman to guide their erring steps.

Although the influx of visitors from all parts of the kingdom was expected to be enormous, and preparations were made accordingly, still the reality, contrary to usual experience in such cases, far outstripped the ideas of the most sanguine calculators. The millions that thronged to the banks of "Old Father Thames" were unheard of, undreamed of. Had the result being really made known beforehand, how would the danger of congregating so vast an assemblage in a metropolis like ours been predicted and commented on! As it was, many an old lady and timorous gentleman anticipated nothing but riot and disorder; some spoke of famine, others of chartism, and perils of that kind; but, to the wonder and almost consternation of all such evil-foreboders, the utmost tranquillity and harmony prevailed. Even the great Iron Duke, who snuffed mischief in the breeze, and talked of

cannons and gunpowder, and encampments in the park, was compelled to admit, with astonishment, and we are disposed to believe with pleasure also, that all the parade and display of "gun; blunderbuss, and thunder," would be very much out of place. A more peaceful "gathering" never mustered its forces beneath the broad light of the sun. Amity and brotherly love actuated not only those of a kindred tongue, but appeared to unite all nations—

—————"Embassies from regions far remote,
In various habits ; some from farthest south,
Syene, and where the shadow both way falls,
Meroe, Nilotic isle ; and, more to west,
The realm of Bocchus to the Black-moor sea ;
* * * * *

From India and the golden Chersonese,
And utmost Indian isle, Taprobane,
Dusk faces with white silken turbans wreathed ;
From Gallia, Gades, and the British west ;
Germans and Scythians, and Sarmatians, north
Beyond Danubius to the Tauric pool,
All nations * * *

And London, whose "great revenge had stomach for them all," received into her cordial embrace all these kindreds and people, and would have done so, had even twice the number demanded her hospitality ; aye, and given food and shelter to them all. The Commissioners were therefore wise in leaving the accommodation of the strangers to the care of the town itself, and innumerable were the various residences that opened their doors to those that sought a temporary abode. All found a fitting *gite*, from the luxurious noble to the humble peasant, the hard-working mechanic, whose scanty purse rarely sufficed to maintain its owner beyond a single night in his "unaccustomed lair."

Among other accommodations that were provided, through the speculation of spirited individuals, we may notice a "monster" establishment for the reception of the working-classes, projected and registered by Mr. Thomas Harrison, of Ranelagh Road, Pimlico, which was really so

gigantic that we cannot forbear presenting a description of it to our readers, were it only to show the promptitude, and the effectual manner, in which the necessities of the public can be provided for in our wealthy and flourishing land.

The building we are about to describe, was in the immediate vicinity of Mr. Cubitt's Pimlico Pier, to which steam-boats arrive from the city every ten minutes. It occupied a space of two acres, was bounded by roads on three sides, was airy, and well ventilated. It contained two sleeping-rooms, comprising an area of 25,000 feet, and two other dormitories of half the size. These four rooms were calculated to accommodate 1,000 persons per night. Every lodger had his own bed-room, separated from the others by a partition seven feet high, ensuring perfect privacy to the occupant. Efficient warders were appointed to watch over the dormitories, which were well lighted with gas during the night. These rooms were open at the top, for the purpose of ventilation. In each room was a good bed, and the lodgers kept the keys of their own dormitories. Each of these rooms was five feet wide, and six and-a-half long. The dining-room, the reading-room, and the smoking-room, had each an area of 2,000 feet. The news-room was well supplied with newspapers, magazines, and all works relating to the Exhibition, and other sights of London, free of charge. A band of music enlivened the reveries of the smokers in their cloudy apartment. On the summit of the edifice was a lantern 1,500 feet square, from which visitors were enabled to enjoy an excellent view of the moving panorama of the river and the adjacent country. Hot rolls were baked upon the premises, and a good breakfast provided for 4*d.*, and a dinner for 8*d.* The price of the lodging, with all the agrémens and advantages, was 1*s.* 3*d.* per night, which also included soap, towels, and every convenience for ablution. "Boots" performed his duty for a penny each, and a barber looked after the heads and chins of the guests. A surgeon was also in daily attendance at nine

o'clock. A penny omnibus was attached to the service of the institution, and every precaution was taken to ensure the comfort and welfare of every one, even to providing for the care of such as, in the joyousness of their hearts, and their unaccustomed liberty, should have indulged a little too far in their libations to the "jolly god."

All were abundantly gratified, from the Queen herself, the mistress of the revels, to the meanest of her subjects who participated in them— revels, not of the senses merely, although great was the delight inspired by so many objects of beauty and of art, but of the understanding also, in the contemplation and admiration of the progress and advancement of human knowledge and human industry.

The charge for admission to the World's Grand Show, was not arranged without a good deal of discussion. It was proposed by Mr. Paxton, to "throw open the doors of the world's Exhibition to the world's citizens," but this visionary scheme was overruled, and the Commissioners finally determined that the charges for admission should be as follows :—

Season Ticket for a Gentleman	£3	3	0
Season Ticket for a Lady	2	2	0

These tickets were not to be transferable, but were to entitle the owner to admission whenever the Exhibition should be open to the public.

The Commissioners reserved to themselves the power of raising the price of the season tickets when the first issue should be exhausted, should it be deemed advisable.

On the first day of Exhibition, it was determined that season tickets *only* should be available, and no money received at the doors that day.

On the second and third days the admission price would

be, each day	£1	0	0
On the fourth day of Exhibition	0	5	0
To be reduced on the twenty-second day to	0	1	0
On Mondays, Tuesdays, Wednesdays, and Thursdays, in each week	0	1	0
On Fridays	0	2	6
On Saturdays	0	5	0

To avoid confusion and delay, no change was to be given at the doors.

It was suggested by Prince Albert, in his first conference with the original projectors of the Exhibition, that there should be four grand compartments, which, as far as possible, should be devoted to the reception of the following specimens. In the first, all raw materials; in the second, machinery and mechanical inventions; in the third, manufactures; and in the fourth, sculpture and plastic art.

With respect to the productions of Great Britain, this arrangement has been strictly carried out. Various reasons rendered it advisable to allow each foreign nation to fill up its own space in its own manner. A strong argument in favour of this deviation from the original plan was found in the circumstance that without such concession the arrangement of the Exhibition would be indefinitely delayed until the last package from the most distant country had arrived.

Nothing could more clearly prove how well his royal highness had studied the problem he had undertaken to demonstrate than his suggested arrangement of raw material, mineral, vegetable, and animal, upon which the skill and industry of man is exerted to grow and manufacture; machinery, by which, from raw material, the greatest results may be obtained, at the smallest cost of time and toil; manufactured articles, in which the result of man's industry, applied to the gifts of a gracious Providence, may be seen and compared; sculpture and plastic art, from which the manufacturer and the consumer may alike learn to value that perfection which can only be attained by the union of beauty and proportion with useful manufacture.

Under one or other of these heads, an illustration of every material aid to the commerce, the agriculture, the manufactures, the sustenance, and the education of civilized communities, will be found. No matter to what country, or pursuit a visitor may belong—peasant or peer, duchess

or dairymaid—soldier, sailor, or man of science—miner or miller, farmer or engineer—under some one or other of the subdivisions of this classification we will undertake to find something which shall interest, amuse, instruct, and profit.

Each of these four principal compartments was divided into as many parts as were necessary for particular classification. The first, which included “raw materials,” contained all ores, and non-metallic mineral products, and also what related to mining and quarrying operations, as well as geological maps, &c. The second had relation to all chemical and pharmaceutical products, and processes generally. The third, all substances used as food, both vegetable and animal; and the fourth had reference to all vegetable or animal substances, used in manufactures, or as implements or ornaments.

The second grand compartment “machinery,” was also variously subdivided into classes; the first containing machines for direct use, such as steam-engines, water and windmills, and various other prime movers, together with railway carriages, objects of naval mechanism—and all carriages, public or private, carts, waggons, &c.; the second, for manufacturing machines and tools, as well as the manufactured articles themselves. A third was dedicated to civil engineering and building contrivances; designs and models of bridges, tunnels, docks, harbours, lighthouses, and beacons; plans of water-works, gas-works, sewerage, ventilation, &c., &c. A fourth comprised all relating to naval architecture, and military engineering; ordnance, armour, and accoutrements. A fifth had relation to the more peaceful labours of the husbandman, and displayed every variety of agricultural and horticultural machines and implements. A sixth led the philosophical inquirer to the contemplation of all instruments connected with science, as well as to every variety of musical, horological, and surgical instruments, adapted for the relief or cure of every malady of form or structure which “flesh is heir to.”

Then came the compartment "manufactures," which also had its numerous subdivisions, for articles fabricated from cotton, silk, woollen, flax, hemp, from the mere simple thread, to the most elaborate dimities, cloths, gauzes, ribbons, fancy silks, velvets, cambries, down to rough cordage, &c. &c.

"There is nothing like leather," was the motto of the fabricator of this article, as he exhibited the skill with which he had contrived to render his "raw material" subservient to the gilded chariot of the monarch, and the war-horse of the knight, in rich trappings and embossed furniture, at the same time that he descended to the manufacture of the "clouted shoon" of the laborious peasant. In the same department with this worthy, were to be found the dresser of skins, the furrier, the feather-maker, and the hair-worker, who severally supplied their various stores for use or ornament.

The paper manufacturer was not behind-hand in his contributions to this compartment, and had his appropriate division wherein to arrange the manifold proofs of his industry, ingenuity, and skill, from the material in its raw state as it leaves the mill, to all articles of stationary, specimens of *cartonnerie*, and the perfection of bookbinding.

The tapestry weaver also, and the embroiderer, claimed their allotted space, and rich was the display of elaborate hangings, variegated carpets, elegant fringes, and rare needlework; while the unrivalled lace, and the unparalleled tamboured muslins, elicited unbounded admiration from the numerous groups of the fair sex, who thronged in delighted amazement in the sphere of such irresistible attractions. They who dealt in clothing, too, from the renowned Moses to the gentle man-milliner, also made their inviting appeal to the lounging dandy and the fashionable belle, in every variety of tempting display fitted to distinguish and adorn.

All these, however, were cast into the shade by the splendours of the gold and silver-smiths, and the jewellers, whose department glittered like the sun with all "the

wealth of Ormus and of Ind," and would have been unrivalled, had not the glass-manufacturer dazzled all eyes by the superior brilliancy of his workmanship. He could boast, too, of the large share he had had in the construction of the Crystal Palace itself, to say nothing of the superb fountain that formed the chief ornament of the transept, and served as a trysting place "to many a youth and many a maid" who had wandered up from the country to enjoy a sight of the "World's Wonder," as well as a point of general rendezvous for those who were desirous to meet their friends at "the appointed hour." Moreover, in point of glitter, as far as that quality is valuable, the superb candelabras he exhibited outshone the far-famed diamond of Runjeet Singh, the Koh-i-Noor, and all the sparkling treasures that

"——— The gorgeous east, with richest hand
Showers on her kings barbaric."

The porcelain division, in which the upholsterer, the house-decorator, and the japanner, also exhibited their wares, was well worthy of attention; as was that wherein the worker in wood, in straw, and in grass, together with the artificial flower-maker, and similar operatives, deposited the proofs of their industry and skill. The marble-cutter, and the manufacturer of artificial stones, had likewise their allotted space; while, in the last division of this most comprehensive compartment, were amassed all the endless "contrivances," from caoutchouc and gutta percha, together with infinite examples of the utility of ivory, tortoiseshell, bone, horn, &c. &c.; to say nothing of umbrellas, parasols, walking-sticks, fishing-tackle that would have enraptured "Old Izaac;" and, in short, every possible invention, "*et quibusdam aliis*," for the use and convenience of civilized man.

The last, but by no means the least interesting, of the four grand compartments was devoted to "Sculpture, Models, and Plastic Art." A large proportion of the sculpture, however, was judiciously disposed in prominent

positions throughout the naves and transepts of the building, and greatly conducd to the beauty and general effect of the whole. We shall not at present enter upon a description of the objects comprised under the above head; the subject would be too comprehensive for immediate consideration. We shall, however, from time to time, as we conduct our readers through the intricate mazes before us, select and criticise what we may deem most worthy of notice. Many of the choicest specimens of artistic excellence, the "gems" of the Exhibition, will also be presented to them through the medium of the daguerreotyper and engraver, the excellence and fidelity of whose combined exertions have already enabled us to present to our subscribers, in our first number, besides the general view of the Exterior of the Crystal Palace, and a view of the Transept, the Equestrian Statues of the Queen and Prince Albert, which we trust will be found to unite the utmost delicacy of execution with the most perfect fidelity of resemblance.

CHAPTER VI.

COLONIAL DEPARTMENTS—INDIA.

As the arrangements we have described in the foregoing chapter have solely reference to the British department, as connected with our own islands, we shall now proceed to offer a few details with respect to our colonial possessions, at the head of which "India" indisputably stands pre-eminent. The riches of the East have long been proverbial, and the contributions that were forwarded from our Indian possessions were well worthy of their renown in that respect. A large proportion was sent in by "the

Company," some were exhibited by her Majesty, and not a few were tributes offered on the occasion by native princes and other *magnates* of the East. They comprised natural products, native manufactures for domestic use, models, and a wondrous display of the richest articles of jewellery and luxury.

A magnificent chair, or rather "throne of royal state," of carved ivory, elaborately and exquisitely finished, the back and seat covered with green velvet, richly embroidered with gold, was one of the chief objects of attraction among the treasures of this unrivalled department. It was sent as a present from the Rajah of Travancore, and at the closing of the Exhibition, was used by Prince Albert as President of the Royal Commission. The next article of interest that awakened the curiosity of the spectator was contained in a glass case, enclosed within an iron railing, and attracted general attention, from the extraordinary richness and brilliancy of some large undefined object placed at the top, which, on examination, proved to be the gorgeous coat of a Sikh chief, presenting to the astonished gaze, a mass of gold embroidery covered with pearls, and loaded with the finest rubies and emeralds. Each epaulette alone, attached to this most extraordinary garment, was valued at £5,000; other portions of military attire and trappings were laid about in rich confusion. All this lavishing of wealth upon mere articles of dress, upon that of a soldier too, strikes us as a notable instance of "wasteful and ridiculous excess." What a prize the wearer of it would have been to the fortunate wight that should be lucky enough to capture him, with the ransom of a kingdom on his back! Our Queen's state drawing-room, with all its bevy of courtly dames and lords in waiting, might have been be-jewelled and bedizenned from the spoils of this single coat. What a proof of a barbarous state of society is this taste for inordinate decoration; and after all, the humming-bird, or the golden beetle, is more splendidly attired than was this doughty hero; and in

point of glitter and show, a tinselled harlequin in a pantomime outshines him. Pope tells us of the vanity of the nobleman of his time, who because his dress-coat did not satisfy him—

“ His taylor turned away
Who stitched a star that scarcely threw a ray.”

But what was his ambition to be fine, compared to that of this egregious Sikh? After all, there is but a poor satisfaction to the mind, that is gifted with a ray of intelligence, in the contemplation of these glittering toys, and more especially so, when they are too bulky or too precious for use. Witness the great Koh-i-Noor, imprisoned like a robber in his own iron cage; the tribute of admiration bestowed upon which was not equal to that elicited by the most trivial piece of machinery, that was applicable to the use or service of man. We shall however continue our description of these priceless treasures, in a brief notice of the most prominent objects, among the most conspicuous of which were a pair of “moorchals,” or emblems of dignity, used only by a few of the Indian potentates, when in the presence of the Governor-general. These emblems consisted of hollow cases, of about two and-a-half feet in length, and about six inches in diameter at the upper end, tapering down to a handle of two inches in diameter. The whole was formed of pieces of pure gold, most curiously fastened together by gold thread, and were intended for the reception of the feathers of the beautiful birds of paradise. Of the beauty of the *tout ensemble*, which this specimen of Eastern magnificence presented, it would be difficult to convey any adequate idea.

A princely girdle of gold, studded with nineteen emeralds, each an inch and-a-half square, and bordered with diamonds, next attracted our view, surpassed, however, by a pair of armlets, decorated with three enormous rubies, in comparison with which, the largest in the most celebrated jeweller's possession, would shrink into insignificance. Then we gazed on the famous Lahore

diamond, the "Durria-i-Noor," or sea of light; then on the splendid necklace containing two hundred and forty Oriental pearls. But we should never have done, were we to describe the number and variety of these valuable "gawds"—vases, cups, bowls, jewel boxes, and brilliants of every sort and description were displayed on every side, till the wearied spectator was ready to exclaim "*jam satis!*" and to turn his attention to objects less costly, but more satisfying to the intellect.

Leaving therefore these jewels to repose in their own caskets, within their strictly guarded prison bars, we will make mention of specimens of Indian magnificence, in the shape of thrones, canopies, howdahs, trappings for elephants on state occasions, all which travelled across the desert, bound on their pilgrimage to the "world's fair," and were chiefly presented to her Majesty by the renowned Nawab Nizam of Bengal, a short account of whom, as a magnificent contributor, may not be unacceptable to our readers, and which, in the language of a contemporary writer, we here present for their edification.

"The present Nawab's ancestors ruled for several centuries as independent sovereigns over the districts of Bengal, Behar, and Orissa, and their residence—at least for a considerable time previous to the British conquest of India—was the city of Moorshedabad, which is situated on the banks of the Hooghly, about 150 miles north of Calcutta. It occupies a perfectly level site, and is destitute of fortifications. Its streets are narrow, irregular, and dirty, and the houses, for the most part, are only one story high, and of mean appearance. Of these the majority are built of earth mixed with chopped straw, and thatched with dried grass, and are called *kutcha*; others are constructed of mud and bricks—a kind of masonry which is styled *pukka kutcha*—while some, called *pukka*, are built entirely of brick. The city contains many curious old mosques, but the only public edifices of any magnitude and architectural beauty, are the Emaumhara, or House of God—to the construction of

which the British government contributed £15,000—and the new palace built for the late Nawab. The latter is a spacious edifice in the Doric style, and was erected from the plans and under the superintendance of General Duncan Macleod, at the cost of £66,000. There is a large model of it in Hampton Court Palace, which occupies a pretty large room. The population may be estimated at about 150,000, the bulk of whom are employed in the cultivation of rice and indigo, and the various processes of silk manufacture. Of the numerous factories and filatures, those of Messrs. Lyall and Messrs. Watson are the most extensive, many thousands being daily employed by those houses in spinning and hand-loom weaving. Moorshedabad is also an important mart for cotton, and many of its native merchants have acquired great wealth.

The late Nawab, who died in 1837 or 1838, was the last person on whom the Guelphic order of knighthood was conferred. His successor, the present Nawab, attained his majority four or five years ago, and is now about twenty-three. He has a son by each of his three wives, with whom he lives in his harem, about a quarter of a mile from the new palace, which is only used on *durbar*, or levee days. Of these there are six or eight yearly. On such occasions he is generally borne by eight men in a palkee, or howdah, with poles, like that presented to her Majesty, and is escorted by the principal officers of his household on foot, while he is followed by a numerous train, mounted on elephants, camels, and horses, all gorgeously caparisoned. Those who have seen the rich elephant-trappings at the Exhibition, will be enabled to form some idea of the magnificent spectacle presented by fifty elephants in full state equipment, followed by about a score of camels, and a similar number of horses, with housings of corresponding splendour. The sumptuous canopied couch in which his highness reclines on reception-days, was accurately represented by that at the Exhibition, of which we have already given a detailed description. The natives who attend the *durbar* leave their shoes at the entrance of

the reception-hall, and, with head covered, according to the Eastern custom, advance with a series of salaams to his highness, who is surrounded by his attendants and guards, and on whose left, the place of honour in the East, sits the agent for the governor-general. They then present him with a mohur—a gold coin £1 12s. in value—and if the person offering it enjoys his favour he accepts the coin, and pours a few drops of attar of roses on his handkerchief. After this ceremony it is the custom to retire backwards with a repetition of the salaams. Besides the respect and affection with which the present Nizam is regarded on account of his personal qualities, he is also held in great consideration as the head of the sect of Sheahs, who are much looked up to in Lower Bengal.

We will now take a survey of another court or division appropriated to our East Indian Colony; and here again were divers articles of state and luxury, superb couches, royal bedsteads with richly-embroidered curtains; marble slabs and carved furniture, in wood and ivory; together with a vast variety of ornaments; fruit and flowers in wax; carved boxes and ornaments in sandal-wood from Mangalore; embossed paper and illuminated writings, sent by the King of Oude; together with a large assortment of manufactured articles illustrative of the wonderfully-exact and patient industry of Hindoo workmanship. The most striking feature, however, in this collection, was an apartment completely furnished in the style of an Indian palace, in which was realised all that the Arabian Nights, and other romances, have detailed with respect to their gorgeous and costly luxury.

Around the exterior of this room were arranged a number of figures illustrating the various trades and castes of the Hindoos, together with a rich assortment of shawls, carpets, matting, &c. &c. Various objects, also, of natural produce from different parts of our vast Indian Empire were distributed around this interesting compartment.

Beautiful carvings in ivory were also to be seen, one representing the procession of a native Indian prince,

another a state barge, with its bank of agile rowers. At the same time, proofs of their attention to rural economy were to be found in many curious models of agricultural tools and implements, which appear to be precisely of the same form and description as were in use among the ancient Egyptians, as is evident from drawings and manuscripts that are still in existence. Hydraulic machines, on which tropical cultivation so greatly depends, were also exhibited, of various and original construction. The mode of manufacturing sugar was likewise exemplified, and a rude process it was—two grooved rollers of wood, placed face to face, were turned by two men with handspikes, while two or three sugar canes were thrust between them; this imperfect force serves to extract but a small quantity of juice, and yet we receive a good quantity of sugar from our East Indian possessions.

To turn from these peaceful occupations to the business of “grim-visaged war,” we will now direct the attention of our readers to the “pride, pomp, and circumstance” of military operations, as carried on among the dusky tribes of our Eastern colonies.

In one of the bays of the East Indian department the counters on each side were entirely occupied with a splendid assortment of arms and military equipments, comprising magnificent matchlocks (inlaid in silver or mounted with gold), blunderbuss-like guns, used by our fierce enemies the Sikhs; and brass-swivels, used by Malay prahus, with mortars from Lahore, and cannons from Mysore, swords and sabres, and spears, of all shapes and sorts—all keen, glittering, and sharp weapons—used by the Scindians and the Sikhs, the Mahrattas and the Burmese; some with blades of dark steel, and others with light, inlaid with gold; some with hilts entwined with pearls, or exquisitely enamelled, or otherwise beautifully decorated. Nor was it only the weapons of modern warfare that were here, but those also which illustrate the mediæval history of India, and which may have been wielded by the chivalry of the East amidst the gleaming battle-hosts of Nadir.

Shah of Ghengis Khan. Here, in short, were to be seen the armouries alike of Tippoo and Tamerlane. Here hung the glittering scimitar and tapering lance. Here we found the small circular shields suited to a former age of warfare; and here were suspended the fine chain-worked coats of armour, almost as flexible and light and yielding to the form as the beautiful coats of linen or silk of similar shape, exhibited in the cross avenue of the compartment opposite, reminding one of the chain armour of our ancient Norman chivalry. Here, again, were the bows and arrows, and the javelin (also recalling the ideas of our own early military history), arranged tastefully in circles, presenting all around a terrible close array of keen-looking points. Here likewise was the battle-axe—most beautifully inlaid—and a superb suit of steel armour inlaid with gold, together with a shield of deer-skin, transparent, and with enamelled bosses. And lastly, here were some curious specimens of most murderous ingenuity: such as a shield, with gold bosses, every boss concealing a pistol; a double sword dividing at pleasure into two longitudinal or lateral sections, each constituting a complete weapon; and strange conical caps, having round them sharp-edged discs of brass, hurled most dexterously and dangerously by some tribes as weapons of offence—little knives and daggers being very engagingly stuck all round, and giving an appearance to the whole far less graceful than grim.

Many specimens of bows, those most ancient of weapons, were also exhibited in this department, some of extraordinary length, and rude enough, in comparison with the more modern implement; others were short, carved, and curiously ornamented, probably the real Scythian bow which has for many long ages been in use among the Asiatic tribes, a bow of singular construction, deriving its chief elasticity from animal tendons, bound tightly upon the wood.

As we shall probably again have occasion to refer to the "East India compartment," we shall close our

notices of it for the present ; not, however, without paying our respects to its great lion, the Koh-i-Noor. And in order to give it "honour due," and to impress our readers with a befitting sense of its high dignity and value, which perhaps from a mere inspection of the royal relic of Eastern grandeur they might be disposed to question, we shall give a few particulars with respect to its "ancient and modern history," and then close the present chapter.

The Koh-i-Noor, then, our readers must be informed, is one of the most valuable diamonds that are known to exist in any part of the globe ; two others only are supposed to be of greater value—the Russian sceptre-diamond, valued at the enormous sum of £4,800,000 ! and one belonging to Portugal, uncut, but supposed to be of still greater value. The Koh-i-Noor, however, has been long celebrated both in Asia and in Europe, and lays claim to our respect from its traditional, as well as its historic fame. Hindoo legends trace its existence back some four or five thousand years, and mention is made of it in a very ancient heroic poem, called *Mahabarata*, a circumstance which gives us reason to suppose that it is the most ancient of precious stones that have come down to modern times. The poem states that it was discovered in the mines of the south of India, and that it was worn by Karna, the King of Anga, who was slain in the great Indian war, the date of which there is good evidence for believing to be in the year 3001 before Christ, consequently nearly five thousand years ago. A long silence then takes place on the subject of this jewel, which is not again mentioned in fable or in history till fifty-six years before Christ, when it was stated to have been the property of the Rajah of Nijayin, from whom it descended to the Rajahs of Malwa, and was possessed by them until the Mahomedans overthrew their principality, and swept away this priceless gem, and other spoils of immense value from the subjugated territory. The Mahomedans, in their turn, were obliged to bow their necks to

their fierce invaders, for we find that in the beginning of the fourteenth century, they were constrained to yield up the territory they had won, the noble diamond and all their spoil, to the victorious armies of Ala-adin, the Sultan of Delhi, in whose dynasty the diamond remained for a lengthened period.

The modern history of this precious stone may be said to commence about two hundred years ago, when an eminent French traveller, skilled in diamond lore, visited India with the object of effecting purchases in those matters, and being favourably received at the court of Delhi, he was allowed to inspect the imperial jewels, and the account he gives of the one that surpassed all the rest in size and beauty, warrants the supposition that the diamond he describes was actually the great Koh-i-Noor. We next trace it to the possession of Baber, the Mogul emperor, through the right of conquest, and eventually to that of the ruling family of Kabul.

Nadir Shah, on his occupation of Delhi in 1739, seized upon all that the imperial treasury contained, and also compelled his poor vanquished foe, Mahommed Shah, who wore this precious gem in the front of his head-dress, to exchange turbans with him, pretending to do so in testimony of his exceeding friendship and regard. It was at this period that it obtained the name of the Koh-i-Noor. After Nadir's death, it is generally believed that Ahmed Shah, the founder of the Abdali dynasty, prevailed on the young son of Nadir Shah to show him the diamond, and then kept possession of it, the youth having no means to enforce its restoration.

The subsequent history of this diamond is free from all doubt and mystery; it descended to the successors of Ahmed Shah, and when Mr. Elphinstone was at Peshawur, he saw it on the arm of Shah Shoojee, surrounded with emeralds. The fortune of war drove the unhappy Shah to seek the hospitality of Runjeet Singh, who treacherously made him his captive, and partly through importunity, and partly through menace, in the year 1813, wrested

from him his diamond, presenting the wronged monarch with a paltry sum in alleged consideration. So that after all, the gem has in it the greatest possible flaw, that of having been dishonestly obtained,—

“Asleep and naked as an Indian lay,
An honest factor stole his gem away.”

And were we disposed to play the part of Cassandra on the occasion, we should venture to predict that the enjoyment of it would not be without its corresponding alloy. O ! for those days of chivalry and honour, when the glittering bauble would be restored to its rightful owner, even at the expense of the paltry millions at which its worth might be estimated.

But to return to our history. The traitorous Runjeet, on the principle, we suppose, that “stolen waters are sweet,” exhibited on all occasions, and with the greatest satisfaction, his ill-gotten gem, which he wore as an armlet on all state occasions. Death, however, who, as Sancho says, levels all distinctions, threatened him at last with the loss of his stolen jewel, and there were not wanting Hindoo jesuits about him, who endeavoured to persuade him that he might quiet his conscience by bequeathing it to the great Indian idol Juggernaut. The sick monarch appeared to be struck with the idea, but he was too far gone to articulate, and could only signify his assent by nodding his head. As, however, no other warranty could he produced in favour of the grim idol, the king’s successors kept fast hold of what they had got. With the ordinary quick transition of property in these countries, the gem next became the property of Rhurreuk and Shu Sing; and after the murder of the latter, also a frequent occurrence among Indian princes, the jewel remained in the Lahore treasury, until the annexation of the Punjab by the British government, when the East India Company contrived to get possession of it, on the plea that it was right and proper to seize upon all the property of the state, in part payment of the debt alleged to be due by

the Lahore government, and also for the expenses of the war. It was then agreed that the Koh-i-Noor, being a state jewel, and not easily convertible into cash, should be presented to the Queen of England, which was accordingly done. Such is the history of this extraordinary jewel; but, besides these various acts of rapine and fraud, a more sanguinary deed, in cool blood, is connected with its history; for it is related that the Italian lapidary by whom it was cut, having performed his task in a manner unsatisfactory to his employer, he was forthwith ordered to immediate execution. True it is that the facets of this diamond are cut in a very unartist-like manner. The situation, too, in which it was placed, and the crimson cloth with which it was surrounded, were very unfavourable for a full display of its beauty and splendour.

In taking our leave of India for the present, which we do somewhat reluctantly, we shall close our remarks with a citation from the learned and eloquent discourse of Dr. Whewell, illustrative of the difference between the arts and manufactures of the countries called barbarous, and the productions of our own more civilized land.

"We call these nations," says the talented lecturer, "rude and savage, and yet how much is there of ingenuity, of invention, of practical knowledge of the properties of branch and leaf, of vegetable texture and fibre, in the works of the rudest tribes! How much, again, of manual dexterity, acquired by long and persevering practice, and even so, not easy! And then, again, not only how well adapted are these works of art to the mere needs of life, but how much of neatness, of prettiness, even of beauty, do they often possess, even when the work of savage hands! So that man is naturally, as I have said, not only an artificer, but an artist. Even we, while we look down from our lofty summit of civilized and mechanically-aided skill upon the infancy of art, may often learn from them lessons of taste. So wonderfully and effectually has Providence planted in man the impulse which urges him on to his destination—his destination, which is, to mould the

bounty of nature into such forms as utility demands, and to show at every step that with mere utility he cannot be content. And when we come to the higher stages of cultured art—to the works of nations long civilized, though inferior to ourselves, it may be, in progressive civilization and mechanical power—how much do we find in their works which we must admire, which we might envy, which, indeed, might drive us to despair! Even still, the tissues and ornamental works of Persia and of India have beauties which we, with all our appliances and means, cannot surpass. The gorgeous East showers its barbaric pearl and gold into its magnificent textures. But is there really anything *barbaric* in the skill and taste which they display? Does the Oriental prince or monarch, even if he confine his magnificence to native manufactures, present himself to the eyes of his slaves in a less splendid or less elegant attire than the nobles and the sovereigns of this our Western world, more highly civilized as we nevertheless deem it? Few persons, I think, would answer in the affirmative. The silks and shawls, the embroidery and jewellery, the moulding and carving, which those countries can produce, and which decorate their palaces and their dwellers in palaces, are even now such as we cannot excel. *Oriental* magnificence is still a proverbial mode of describing a degree of splendour and artistical richness which is not found among ourselves.

"What, then, shall we say of ourselves? Wherein is our superiority? In what do we see the effect, the realization, of that more advanced stage of art which we conceive ourselves to have attained? What advantage do we derive from the immense accumulated resources of skill and capital—of mechanical ingenuity and mechanical power—which we possess? Surely our imagined superiority is not all imaginary; surely we really are more advanced than they, and this term 'advanced' has a meaning; surely that mighty thought of a PROGRESS in the life of nations is not an empty dream; and surely our progress has carried us beyond them. Where, then, is the import

of the idea in this case? What is the leading and characteristic difference between them and us, as to this matter? What is the broad and predominant distinction between the arts of nations, rich, but in a condition of nearly stationary civilization, like Oriental nations, and nations which have felt the full influence of progress like ourselves?

" If I am not mistaken, the difference may be briefly expressed thus:—That in those countries the arts are mainly exercised to gratify the tastes of the few; with us, to supply the wants of the many. There, the wealth of a province is absorbed in the dress of a mighty warrior; here, the gigantic weapons of the peaceful potentate are used to provide clothing for the world. For that which makes it suitable that machinery, constructed on a vast scale, and embodying enormous capital, should be used in manufacture, is that the wares produced should be very great in quantity, so that the smallest advantage in the power of working, being multiplied a million-fold, shall turn the scale of profit. And thus such machinery is applied when wares are manufactured for a vast population—when millions upon millions have to be clothed, or fed, or ornamented, or pleased, with the things so produced. I have heard one say, who had extensively and carefully studied the manufacturing establishments of this country, that when he began his survey he expected to find the most subtle and refined machinery applied to the most delicate and beautiful kind of work—to gold and silver, jewels, and embroidery: but that when he came to examine, he found that these works were mainly executed by hand, and that the most exquisite and the most expensive machinery was brought into play where operations on the most common materials were to be performed, because these were to be executed on the widest scale. And this is when coarse and ordinary wares are manufactured for the many. This, therefore, is the meaning of the vast and astonishing prevalence of machine-work in this country—that the machine with its million fingers works for mil-

lions of purchasers ; while in remote countries, where magnificence and savagery stand side by side, ten of thousands work for one. There Art labours for the rich alone ; here she works for the poor no less. There the multitude produce only to give splendour and grace to the despot or the warrior, whose slaves they are, and whom they enrich ; here the man who is powerful in the weapons of peace, capital and machinery, uses them to give comfort and enjoyment to the public, whose servant he is, and thus becomes rich while he enriches others with his goods. If this be truly the relation between the condition of the arts of life in this country and in those others, may we not with reason and with gratitude say that we have, indeed, reached a point beyond theirs in the social progress of nations ?”

CHAPTER VII.

SCULPTURE.

IT is not our intention, in threading our way through the inexhaustible variety of objects presented to our view in the Crystal Palace, to attempt any scientific or classified enumeration of its wonders. That herculean task has been already fully and ably executed in the vast and voluminous catalogue, of which we are told, “that if the whole of the earlier editions had been consigned, in one vertical column, to the bottom of the Pacific Ocean (a computed depth of 6,000 feet), the present improved and corrected edition would still form a lonely peak rising to the height of Chimborazo or Cotopaxi, exactly 18,000 feet above the level or the censure of the ordinary inhabitants of this earth.” Our time and limits, indeed, would not permit us to examine a tithe of what was spread out before us ; we shall, therefore confine

our remarks to the consideration of the most useful, the most astonishing, the most ingenious, the most interesting, the most beautiful. And in our discursive flights, we shall not profess to be bound by any rigid plan of proceeding from first to last, as those unimpassioned visitors of an exhibition who begin at No. 1., and never suffer their eyes to wander till they have coldly examined every picture upon the walls, in the exact series and order in which they are enumerated in the catalogue. We, on the contrary, shall stray through the gay parterre, at our own free will, stopping only to examine and describe, as our captivated fancy may impel and direct; through the vast *embarras de richesse*, we shall pass from one subject of interest to another, "from grave to gay, from lively to severe," in the true spirit of liberty and unrestrained enjoyment.

Having premised thus much, and feeling ourselves, for the present, somewhat overpowered by the contemplation of all the Oriental magnificence, the "barbaric pearl and gold," which formed the subject of our preceding chapter, we shall "let Euclid rest and Archimedes pause," and suddenly removing, as with the touch of an enchanter's wand, the scene we so lately beheld, transplant our readers to the halls of sculpture, and call their attention, for a time, to the consideration of what the Plastic Art contributed towards the embellishment of the world's great emporium of industry and talent.

It will be the business of our engraver, whose art has been put to its utmost stretch of excellence, to compete with the elaborate and exquisite detail of the daguerreotype, to present our readers, from time to time, besides the general views of the interior of the building, with such specimens of individual talent among the numerous sculptors, both British and foreign, who contributed their offerings, as our impartial judgment may select, and which we shall accordingly forthwith proceed to describe.

In compliment to our foreign contributors, we shall commence with the colossal group of the "Amazon attacked by a Tigress," by Kiss of Berlin, which was one of the

marvels of the Great Exhibition, and received more tributes of unqualified praise than perhaps any other single object in the Crystal Palace. It was certainly a very masterly production, and in a style which was almost new to sculptors of our day ; though at the same time, from the nature of the subject, not entitled to rank with works in the highest class of sculpture. It was more animal than spiritual ; the conception more startling than poetic. The Amazon was a figure of tremendous energy. The manner in which she was represented, as having thrown herself back out of her ordinary seat, in order to get beyond the reach of the tiger, whose claws were already deep dug in the neck and flanks of the horse, whilst she took deliberate aim for a single and critical blow at the head of the savage monster, was admirably conceived and carried out ; the face, with its mixed expression of terror and determination, was of itself a study sufficient for an entire work in sculpture. The horse and tiger were both masterpieces in their way, but unfortunately they more than divided the interest with the human subject. This work was a copy in zinc, bronzed, from the original in bronze, erected in 1839, at the foot of the steps before the Museum at Berlin ; having been made a present to the King of Prussia by a society of amateurs. We should like to see this group in the place for which it was originally designed, as its position in the Exhibition, owing to its narrow limits, and its proximity to gaudy paraphernalia, considerably injured its effect as a whole.

Another group, of Theseus and the Amazons, in the south transept, the production of Engel, an Hungarian, also attracted a good deal of attention, partly, perhaps, from its being the property of Prince Albert, as well as from its own intrinsic merit. We had frequent opportunities of seeing this work in progress in Rome, where it was executed during the troubles and commotions that agitated that most unfortunate and most injured city, at the period of its treacherous usurpation by Republican France. The artist, nevertheless, with unchecked applica-

tion and industry, achieved his laborious task sufficiently in time for its being conveyed to our hospitable shores for exhibition.

More graceful than energetic, the composition of this group wanted a little of the fire that characterized the production of Kiss; the story, moreover, was not very clearly told, and the draperies were deficient in smoothness and naturalness. At all times among ancient sculptors these lady-warriors were especial favourites, and their well-contested battles with the Athenians are to be seen among the terra-cottas in the British Museum, as well as on the friezes of the temples of Theseus at Athens, and of Apollo Epicurus on Mount Cosylion, near the ancient city of Phigaleia, in Arcadia.

"Fine subjects do not always make fine pictures," was the remark of a sage academician of our acquaintance; neither do they always make fine groups in marble. Our Lord's charge to Peter, "Feed my Lambs," was deficient in dignity and expression, and too literally understood. Seldom, indeed, have scriptural subjects been adequately treated: rarely has the figure or the countenance of the Saviour, "full of grace and truth," been worthily delineated. Even Michael Angelo has failed in his celebrated statue in the Church of the Minerva, at Rome, in representing the august majesty of "The Incarnate Deity." Before attempting such a task, the artist would do well to bear in mind the beautiful invocation of Milton, at the commencement of his noble poem:—

" — And chiefly Thou, O Spirit, that dost prefer
Before all temples the upright heart and pure,
Instruct me, for thou know'st— * * * *
* * * * * What in me is dark,
Illumine; what is low, raise and support."—*Paradise Lost.*

On pursuing our investigations among the crowded marbles that throng the sculpture court—

" Thick as autumnal leaves that strew the brooks
In Vallambrosa,"

we discovered a fine statue of the calm and philosophic

Flaxman, by Watson ; a Prometheus, by Theed ; and an Ino and Infant Bacchus, graceful and joyous. We next recognised our old acquaintance, Whittington, the runaway apprentice, and subsequent Lord Mayor of London, apparently listening to the melodious bells that augured to his youthful fancy his future greatness. There was a great deal of truth and nature in this little figure ; but perhaps we have been too much accustomed to see the sculptor's art employed on higher subjects, to relish its adoption in those of more humble and common life.

Before we quit this department, we must not omit to cast a glance of admiration and pity upon the fair Ophelia, about to hang "her coronet weeds" upon the fatal willow. A pastoral group, too, by Kirk, was deserving of our notice—simple, natural, and illustrative of the golden age from which its happy subjects were selected.

In the transept, setting aside the majestic elm, "star-proof," and the noble fountains, we confess we found no pre-eminent object to exclusively engage our attention, always, of course, excepting the personifications of our august Queen and her royal Consort, to whose intelligence England is indebted for the original idea of this mighty gathering of nations—these "embassies from regions far remote." The statuary was too much on a par to excite individual notice.

We will next notice "The Boy attacked by a Serpent," and "The Deliverer," by Lechesne, a young Frenchman of great promise. The first of these groups represented a child attacked by a large serpent, and defended by a dog, which generously interposed between the reptile and its object of attack. The fear of the child, and the watchful and angry zeal of its four-footed protector, were exceedingly well given ; and in the companion group, in which the headless snake testifies to the victory of his canine antagonist, the gratitude of the boy, and the placid satisfaction of the noble animal, were equally well represented. We understand this pair of subjects was to be executed in marble for Prince Demidoff.

As we sauntered down the nave, we next came upon a fine group by Pierotti, who gave us the "Binding of Mazeppa upon the back of the Wild Horse," from the vigorous verse of Byron. The action of the untamed animal, the fierce and remorseless bearing of the executioners of the tyrant's vengeance, and the hopeless resignation of the victim, were not unworthy of the poetic description of the noble bard himself.

We wish next to direct the attention of our readers to a fine group by Jerichau, a Danish sculptor, and no unworthy successor to his great fellow-countryman, Thorwaldsen, whose style he appears to have followed. It represented "Adam and Eve after the Fall." Never were the different characteristics of the masculine and feminine nature, psychologically considered, depicted with more truth and feeling. The man appeared to suffer with all the force of his intellect; not only fully aware of his own altered and awful situation, but already beholding, by the clearness of his perceptions, all the dismal calamities to his descendants, in consequence of his transgression. Deeply were the effects of his view, turned inwards upon himself, and his prescient glance into futurity, and what it had in store through him, for generations yet to come, marked in his countenance. No trait of merely human regret was to be found in it. He was astounded at his own state, but evidently submitted to it, from the conviction that his sentence was the decree of Almighty Justice, which cannot err, and that he had brought it upon himself; but it was the effect of it upon others, which roused all his powers of thought, all the extent of his comprehension; and it was the finding his utmost grasp of mind unequal to the fulness of the terrible reality, that imprinted despair upon his "fair large front." In the woman, the form and essence of love, we saw the suffering of the affections. Never was Milton's beautiful line—

"He for God only, she for God in him,"

more admirably illustrated. We saw she was not thinking

of the decree against herself, though including all the trials most grievous to her nature: deep, indeed, and touching, was the penitence and grief with which her whole frame seemed penetrated; but we saw, we felt, that her penitence was for the act by which she had brought ruin upon him she loved and reverenced, her "glory," her "perfection:" her sorrow for the sad reverse of the boon by which she had thought to impart additional good to him; a good in which, though first to taste it, she yet found no relish until he could share it with her. It is this sweet womanhood in our "general mother," that Mr. Jerichau has expressed with a feeling worthy of Milton himself, to whom we are indebted for the most perfect portraiture of feminine excellence and loveliness that ever was depicted by the aid of words; and the contemplation of this group will give rise to many a musing and many an aspiration in the mind of the thoughtful beholder, pure and lofty as its theme.

Not, however, to extend our remarks on this subject beyond its due limits, we will now turn our attention to the *Austrian* sculpture, as in its wonted spirit of usurpation, that government termed the productions of the Milanese chisel; and at the very point of entrance to the apartment, doubtless much to the gratification of the artists whose works are arranged within, the stern Radetzky was planted in full military display—the rugged serf elevated to the dignity of epaulettes and the marshal's baton. The equally celebrated Hainau might have formed a fit companion to this worthy, in the "sentinel watch" he appeared to hold over these unfortunate sons of genius; but we do not think the British public would have relished the appearance of the hero of Breschia within those peaceful walls. For our own part, we will leave the *par nobile fratrum*, the tools of despotism, to their unenviable notoriety, and endeavour to forget the reminiscences attached to their names, in the contemplation of the lofty and poetic fancies which gentler minds and more amiable spirits spread around these favoured limits.

"A veiled Vestal," and a "Slave in the Market-place," by Monti, were the great objects of attraction in this apartment. In both works the illusion, at a little distance, was very remarkable, and until the spectator came nearer and examined the figure, he did not discover what may be termed the ingenious trick, which pretended to represent two surfaces at once, the one under the other, in the untractable marble; an impossible feat, however, as far as truth in the representation of either of the surfaces was regarded, as was evident on a close inspection. The latter of these pieces was purchased by the Duke of Devonshire.

Leaving, however, these subjects with their *ad capitandum* merit, we will draw our reader's attention to a work of more sterling excellence by the same artist, "Eve after her Fall," a graceful and beautiful personification of our "original mother." We did not, however, approve of the little Cupid peering up from a cluster of roses behind, a trivial and unworthy conceit.

Three works by Antonio Galli, of Milan, were deserving of especial notice: "Jephthah's Daughter," simple, elegant, and full of expression—"A Youth on the Sea-shore," and "Susannah at the Bath," graceful and chastely voluptuous, in her surprise. Marchesi's "Eurydice" also demanded commendation; but, unquestionably, the "Hagar and Ismael," by Max, of Prague, in this so-termed Austrian apartment, was the most impressive and touching, full of nature, dignity, and truth. We must not, however, deny its just tribute of praise to the "Ismael" by Signore Strazza, of Milan, a wonderful performance, and full of terrible pathos in its death-like agony.

It is only of late years that sculpture has descended to the lower range of poetic imagining. Painting, indeed, had frequently illustrated incidents of domestic and ordinary life, and dealt largely in *tableaux de genre*, but sculpture rarely sought inspiration beyond the page of holy writ, poetic fancies, or the graceful imagery of classic fable. Monumental tributes, indeed, she did not deem

unworthy of her genius; but then the "storied urn and animated bust" were chiefly devoted to the memory of the great, to the hero, the poet, or the scholar. She has now, however, begun to trifle with her art, and adopt subjects of lesser importance, familiar or domestic. Roubilliac appears to have been one of the first who began to clothe his figures in the costume they usually wore, a practice we should like to see generally adopted. It has been so arranged with respect to the drama, owing to the good taste of the late John Kemble; for the time was when Cato wore a modish court-dress, bag-wig, ruffles and all; and Garrick performed the parts of Macbeth and Othello in a full suit of modern regimentals. "Reform it altogether," as Hamlet advised, and if our statesmen and orators must strut in marble, let them not figure in a Roman toga, with the incongruity of a shaven chin and military whiskers. We remember seeing in an artist's studio at Rome, to our great astonishment, a full length of Prince Albert as a Greek warrior! *Risu teneatis?* But to return from this digression. The sculptor Cibber, the father of the poet, has shown, in his admirable statues of the two maniacs over the portico of Bethlehem Hospital, how much may be done in marble to illustrate passion and emotion in ordinary life; and Thom, in his Tam O'Shanter and Souter Johnnie, long afforded diversion to the town, and furnished an additional proof, that it is not alone in the stately, the solemn, or the classical, that the genius of sculpture can display its excellence.

We make these remarks, to introduce to the notice of our readers two subjects of this grotesque description, which attracted a good deal of notice from the visitors to the Crystal Palace; more favourable notice, indeed, than the gigantic Crusader by the same artist, who "towered above his sex" in the same locality. The subjects we allude to were known as the Happy and the Unhappy Child; the first a little urchin, stretched at length and at his ease, was admiring the *outre* physiognomy of a punçinello with which he was playing; while the other was

blubbering over the drum he had, probably through excessive energy in beating it, most unluckily broken.

We will now pay our respects to the "Greek Slave," by Hiram Power, an American sculptor, of great talent, who has been for some years past a resident in Florence, where he has executed many admirable works, several of which have found their way to this country. The modest dignity expressed in this figure, its beauty, and the delicacy of its execution, are deserving of the highest praise. The talented Frederika Bremer bears the following testimony to the excellence of this piece of statuary :—"This so-called Greek Slave, this captive woman, with her fettered hands, I had seen many times on the other side of the Atlantic, in copies of the original—cold weak copies of that original which I saw here for the first time. The copies had left a cold impression on my mind. The original seized upon me with an unusual power, as no other statue in marble had done. This noble woman, with her bound-down hands, who so quietly turned her head with its unspeakably-deep expression of sorrow and indignation—scorn is not a sufficiently noble word—against the power which bound her; that lip which is silent, but which seems to quiver with the tumult of wounded feeling, with the throbbing of her heart;—I wonder whether Power himself comprehended the whole of its significance!"

Gibson presented us with a "Greek Hunter," and a fine basso-relievo representing the "Hours leading forth the Horses of the Sun." Both of these were noble and spirited productions, and may fairly take their places among the most celebrated works of antiquity. Not far from these, we noticed a "Narcissus," by Theed, a graceful and classic figure. He was represented leaning upon a boar-spear, gazing upon the fountain which was supposed to reflect his beauteous image, while the flower which bears his name and perpetuates his memory, was springing up at his feet. A "Prodigal Son," by the same artist, was remarkable for the tenderness of the sentiment it inspired,

and for its just illustration of this beautiful and touching narrative in Holy Writ.

Thrupp, in his charming figure of "Arethusa;" and Behnes, in his personification of a "Startled Nymph," were equally deserving of commendation. "Una, with her Lion," has always been a favourite subject with artists—the gentle Una, whose beauty, as Spenser tells us, when she was lost in the recesses of the forest, "made a sunshine in that shady place." The sculptor represented her seated on the lion's back; but we cannot say that the effect was very happy: indeed, we overheard a country critic express his opinion, that the Lady Godiva was before him. Mr. Bell succeeded better in his "Dorothea"—the beautiful vision by the brook that greeted the ravished eyes of the Knight of the Sorrowful Countenance and his companions, in the imitable romance of Cervantes. This, too, is a subject that artists love to delineate; as is also that of the "Babes in the Wood," which was ably treated by the same hand. We remember, many years ago, to have seen this simple story beautifully illustrated by Stodhart, whose magic pencil imparted to it a romantic grandeur and solemnity which, after a period of full forty years, still, in vivid colours, is present to our imagination.

In the Roman department there were but few evidences of the intelligence and genius which the Italians undoubtedly possess. Nor can we wonder at it, oppressed and enslaved as they are by their priests, through the unjust interference of France. Moreover, passports were either altogether refused to many artists, or the hint was given to them, that if they left the country they might find it difficult to return. Nevertheless, a stray object or two found its way within the walls; but the sculptors of Rome were poorly represented, while the works of Tenerani and other magnates of the Eternal City withheld their contributions. Among those which did arrive, we particularly noticed a "Cupid and Psyche," by Benzoni, very beautifully treated; also "Innocence defended by Fidelity," and "Gratitude," a young girl extracting a thorn from

the foot of a dog, by the same artist, equally deserving attention. These are the property of Captain Leyland, a munificent patron of art, who was also fortunate enough to secure two admirable specimens from the chisel of the late lamented Richard Wyatt, entitled "The Nymph Glycera," and "A Nymph," executed with wonderful delicacy and grace. In the death of this artist, Rome has to deplore the loss of one of the most talented of her adopted sons; one, too, who would have risen to the highest walk in his profession, for, diligent and studious, he was ever improving in his art, as his later productions sufficiently testify.

We shall, perhaps, resume our remarks upon the sculpture exhibited in the Crystal Palace at a future opportunity. At present let us pause—

"To-morrow to fresh fields and pastures new."

CHAPTER VII.

CHAUCER'S DREAM—THE TRANSEPT—THE WESTERN NAVE—
CANADIAN TROPHY—RUSSIAN SUSPENSION BRIDGE—MODEL
OF LIVERPOOL DOCKS.

We invite such of our readers as, unfortunately, have not had an opportunity of inspecting the "World's Emporium" in person, to take a glance at the elaborate view of "The Nave of the Great Exhibition, looking west," which we presented to them in our first number, preparatory to their following us in our description of that splendid avenue. Before we enter upon it, however, we must request leave to be allowed to make a short digression in honour of one of England's eldest and most renowned of bards, whose prescient muse appears to have had a sort of foreknowledge of what was to take place in our favoured

isle, when Science, Industry, and Art, should combine their united efforts, throughout the whole earth, to produce among us the unrivalled display of talent and advancement to which an admiring world has just borne witness; for the vast variety that was contained in the wondrous House of Glass, as well as the building itself, wherein every nation found room to treasure up their stores, and to congregate their countless thousands, were, indeed, matters of admiration and astonishment to all the world. Sober-minded people, a few years ago, would have scouted the idea as absurd and visionary, and even the most enthusiastic would never have dared to hope in its realization. What judgment and reason, however, never anticipated, it appears that poetry imagined; for we find in the writings of Chaucer, eldest of British bards, a sort of prophetic announcement of the future Wonder, in his Introduction to the "House of Fame," which he describes as a vision, and speculates upon the causes of dreams, stating his inability to decide whether

"Spirits have the might
To make folks dream o'night,
Or if the soul of proper kind
Be so perfect as men find,
That it wote what is to come.
As I slept," * * * *

he goes on to say,—

"I dreamt I was
Within a temple made of glass
In which there were more images
Of *gold*, standing in sundry stages,
In more rich tabernacles,
And with *jewels*, more pinnacles,
And more curious *portraiture*s,
And quaint manner of figures
Of *gold* work, than I ever saw."

"Then saw I stand on either side,
Straight down to the doors wide,
From the dais, many a pillar
Of metal, that shone out full and clear."

"Then gan I look about and see
That there came entering in the hall
A right great company withal,
And that of sundry regions,
Of all kinds of conditions
That dwell on earth beneath the moon,
Poor and rich."

* * * * *

*Such a great congregation
Of folks as I saw roam about,
Some within and some without,
Was never seen nor shall be more."*

But to proceed. Passing through a pair of richly-gilded iron gates, the visitor entered

THE TRANSEPT,

when its full glories burst upon his view, heightened and magnified by the narrow dimensions of the external roof and vestibule. A vast hall was before him, lined on either hand with sculptured forms. In the centre arose, like some fantastic stalactite or splinter from an iceberg, a transparent crystal fountain, glittering with all the colours of the rainbow, which, towering from a solid base up to a point, poured down upon an overflowing crystal basin an unceasing stream, with a delicious bubbling sound. Beyond the fountain stood the chair of state—a throne of crimson and gold, commanding the grand avenues both east and west. On the left of the throne, at the head of the eastern avenue, the great Indian diamond, the Koh-i-Noor, glittered in a golden cage or prison. Other statues, another fountain of huge spouting stone tritons, a mass of broad-leaved tropical plants, and lofty, smooth-barked palm-trees, another pair of gilded gates, and over all a mighty elm, spreading its full-leaved branches far and wide, and touching the very summit of the lofty roof, completed his first impression of the scene—but not the scene itself, for every glance revealed some new effect, gorgeous or graceful. His eyes travelled at one moment to the semi-transparent roof, with its delicate arches of blue and white, and spider

like diagonal bracing-lines; then they rested upon the pendant tapestry above the galleries, the rich carpets and brocades; or followed the crimson lines of the gallery rails, till they wearied with the luxuriance of colour, animate and inanimate; for all this time, silk, satin, and velvet plumes and flowers, borne by gazers as curious as ourselves, were streaming all around. At length he reached the ground, and was recalled to the real purpose of this Fairy Palace by the word "India" at the head of the British, and "Egypt" at the head of the Foreign Avenue; both making a rich display of arms—the first manufacture of semi-barbarous nations.

THE WESTERN NAVE,

East and west, next challenged attention, and, as the *Illustrated London News* has aptly observed, "were it possible to attain to that state of dual individualism which would have enabled one to visit two places at once, it is probable there would quickly have been a complete duplication of visitors, one half going east and the other west." We shall at present confine our notice to the western side, into which, with the aid of our daguerreotype, we shall forthwith penetrate.

Proceeding then, from that crystal marvel, Osler's Glass Fountain, we must lead our visitor to the extreme west; the various objects arranged in the centre striking the eye in rapid succession, from the silk trophy of Messrs. Keith and Co., to the great mirror at the end under Willis's grand organ. This silk trophy was a novelty, and stood as the type of the textile fabrics of Great Britain and Ireland. It was originally intended that, as each trophy would represent a particular class or manufacture, exhibitors in those departments should unite to form a complete type of their trade. Thus, the silk trophy was intended to have been contributed to by the various manufacturers of Spitalfields, and would thus have been a fitting representation of the silk trade in all its branches. Practical and technical difficulties, however, had to be

overcome, in bringing together products so varied as those of the loom, even in one material; and Messrs. Keith and Co., as manufacturers of the largest kind of silk goods for furniture damasks, undertook the whole work, the construction and arrangement of which was based on a suggestion and sketches made by the superintendent of textile fabrics, Mr. George Wallis, and subsequently improved upon and extended by Messrs. Laugher, Dwyer, and Co., of Poland-street, to whom the merit of the practical realization in its complete form was due. The whole was hung with the richest silk damasks, brocatelles, tabarets, &c., to the height of upwards of fifty feet; the sides of the base being filled in with mirrors of the largest dimensions, reflecting, at certain angles, the draped arrangement, and surmounted by flags and a banner, the central one being emblazoned with the royal arms. In order to effect the regular re-arrangement of the whole at stated periods, the structure was so contrived, that, by ladders placed inside, the requisite work could be effected with comparatively little trouble in a short space of time.

This trophy stood between two bronzes of very different character—the statue of the Duke of Rutland, by Davis, and a very clever group of a “Horse and Dragon,” by Wyatt, intended, we presume, to typify the triumph of the intellectual powers over the lower and more sensual propensities of our nature, since the horse is the symbol of the one, and the traditional dragon that of the other. As, however, notices of individual works belong to the future portion of our task, attention only is called to these works.

The Colonial or Canadian trophy, which we shall more particularly notice hereafter, was the next object of interest, and was formed of specimens of the timber with which our North American colonies supply us. These examples were cut into such slabs as might at once show their wrought and unwrought character, one side of each being duly finished and varnished, or polished. Among these specimens were two contributions by a fugitive

slave, settled in Canada. This group of raw products was placed in the midst of the colonial department ; and the materials, though interesting from their utility, were certainly very unpromising ones for the formation of a trophy having any pretensions to symmetry or artistic effect ; but the difficulty was got over much better than might have been expected, and the whole was surmounted by a small canoe.

Passing the large mirror, with its elaborately ornamented framing and gilding, the spandril from Hereford Cathedral, placed at the back, could not fail to attract the attention of the lover of ecclesiastical decoration. Mr. Thomas's fountain, the subject of which is the story of Acis and Galatæa, stood next, and was a work of no mean excellence. To do it justice, however, a recurrence must be made to it in future notices.

A beautifully carved mediæval cross, designed by Pugin, came next in order. The subjects of the reliefs were beautifully appropriate, and the whole was an excellent example of stone carving. The next object was a kindred one, being a Gothic screen executed by the Patent Machine Carving Company (Jordan's) ; and grouped at the sides were excellent examples of the results of the same process as applied to general decoration.

The "Eldon and Stowell" group, two colossal portrait statues of those eminent brothers, the late Earl of Eldon and Lord Stowell, was well placed in the central avenue, as the work was a bold and massive one. The draperies were grand in their arrangement, and there was a repose in the whole subject which was highly satisfactory. The artist, the late M. L. Watson, was not known or appreciated to the extent which this work and another we shall take occasion to notice when visiting the sculpture, proves he ought to have been. This, alas ! is the old story ; and his talent is now fully recognized, when it is no longer available to us, or of any value to him.

The specimen of Honduras mahogany, several large pillars of alum, and some examples of chemical products,

astonished the curious in those matters ; whilst Dent's turret clock, and the Sheffield trophy—a grand group of cutlery, &c., by the celebrated house of Rogers and Sons—formed admirable contrasts to those huge productions of nature and science.

The Coalbrook Dale dome—a conspicuous object from all parts of the building, commanding a view of the central avenue—as an example of constructive metal casting, was worthy of all praise. We wish we could say as much for the design as a work of art, although in many parts there was much to admire. The statue of the "Eagle Slayer," by John Bell, was placed in the centre ; but as this is one of those works to which, as a whole, recurrence must be made at some future period, we pass on, after calling attention to Mr. Bell's ideal statue of Shakspere, which was placed on the eastern side of the dome—a pleasing work, but of more pretension than power.

An equestrian group, representing a "Dead Crusader, his Horse and Mistress," illustrated a painful episode of bygone times ; whilst the great telescope placed next to it as distinctly illustrated the glorious pursuits of modern science, her aims and triumphs.

The glass cases containing splendid selections of furs by Nicolay, and feathers by Adcock, were attractive to thousands. The former was a remarkable example of ingenuity in arrangement, the case being supported round the base by preserved animals. At this point, too, the magnificent furs suspended from the galleries attracted the attention of the visitor.

The use of terra cotta as a decorative adjunct in building, was admirably displayed by the model of a church in the decorative style, the whole idea being well and thoroughly carried out, and the application of this material as a constructive agent very fully exemplified. Having seen and examined a church so constructed, near Bolton, Lancashire, built by the contributors of this model, Messrs. Willock, of the Lady Shore works, we

can bear testimony to its excellence in many respects, although, like all artificial materials, it has its disadvantages. For garden decorations, there is no material better adapted for general use; and with the progress made of late years, particularly by the enterprising firm to which we were indebted for this example of skill, it is wonderful that the many elegant decorations adapted to ornamental grounds are not more generally used than they are, since we find elegance combined with cheapness, and, under all circumstances, with durability also.

The next object, a model made by Mr. Jabez James, of Broadwall, of a suspension-bridge erected over the river Dnieper, at Kieff, in South Russia, designed by Mr. C. Vignolles, was the most perfect thing of the kind in the building. A similar model to the one exhibited was made for the Emperor of Russia, and cost upwards of £12,000. The scale was one-eighth of an inch; all the details were imitated with such nicety, even in the size of the nails and the threads of the screws, that from it a perfect copy of the original bridge might be executed on a full scale, without any written description. The abutments take to pieces, to show the construction of the masonry and the chambers for the chains. It contains 6,880 pieces of wood, and 87,097 pieces of metal. Before the construction of the suspension-bridge at Kieff, a bridge of boats was in use, the river being 1,200 feet wide. Mr. James, the modeller, received a ruby and diamond ring, valued at £200, from the Emperor, on the arrival of the first model, which is now set up in the Winter Palace at St. Petersburgh. The model of the Britannia Bridge, although less elaborate, was equally exact in scale. Between the two stood a model of Mr. Brunel's bridge over the Wye, at Chepstow.

The large and massive fountain, by Seeley, constructed of artificial stone, astonished and delighted a large number of visitors. The whole work was at once an example of skill in construction and fitness of design.

The model of the Lord Mayor's state barge, by

Searle, had its admirers, particularly in those who delight in civic decorations.

In this rapid sketch of the leading objects in the western side of the central avenue, the revolving lights have been overlooked.

The very elaborate and costly model of the Liverpool Docks and the commercial part of that town, was a remarkable example of the extent to which the economy of our great cities may be illustrated and permanently recorded. This admirable work originated in a desire on the part of certain patriotic gentlemen of Liverpool, that this great port, the outlet of so large a portion of our trade, and the scene of so important a part of the commercial transactions of this country, should be fairly represented in the Exhibition. As, however, Liverpool has no staple trade, properly so speaking, but exists and owes its importance to the diffusion of the products of other localities, rather than the productions of its own, the suggestion that the extent of its means for promoting the great purposes of international communication should be illustrated was a very happy one, and was most admirably carried out by its originator and designer, Mr. John Grantham, C.E., a gentleman who acted as honorary secretary to the Exhibition committee at Liverpool, and spared no pains to do honour to this great occasion. Upon a scale of eight feet to a mile, we had, then, an accurate representation of the docks of Liverpool, and the most important commercial part of the town, including St. George's Hall and the Railway Station, the Town-hall, Custom-house, St. John's Market, and several of the churches ; the shipping lying in the docks, or floating, to all appearance, on the surface of the Mersey, which was represented by the silvering or coloured glass. The model was supported on an appropriately designed base formed of elephants, cast in iron, from the backs of which the columnar supports of the roof arose ; pediments, filled with appropriate decorations in imitation of bas-reliefs, being at the ends and centre. Our limits will not allow

us to describe more minutely this great and important contribution—a work which did honour to the merchant princes of Liverpool, and which was intended to be eventually deposited in St. George's Hall, as a record of this assemblage of all which constitutes the basis of its greatness, its wealth, and practical utility.

A specimen of plate glass of extraordinary size was placed against the columns supporting the cross at this end, and the whole scene through which we have so far journeyed was reflected with great effect.

Standing at this point the whole length of the building was seen, and the result was in the highest degree impressive and beautiful. It was to be regretted, however, that the sides of the central avenue were not kept more clear of projecting objects, as in many instances one or two of these projections interfered with the whole range, and were anything but sightly. As a whole, however, more was done in this direction than could have reasonably been expected, since each exhibitor endeavoured to display his own contributions in the very best possible position, and had as little regard to those around him as the regulations would permit. To our mind the British side was a wonderful exemplification of British character, and the notions each man entertained of his own freedom and independence of action. Like our street architects, each ran up his own erection in his own way, and it was only by a constant supervision, that anything like an *ensemble* was obtained. Bedposts and conservatories, glass cases, iron rods, and sign-boards, appear to have formed the stock notions of the best mode of construction, and these were only worked into a presentable form by a variety of modifications. Again, the substantial character of many of these erections was evident at once. If the whole Exhibition was intended to remain *en permanence*, and the exhibitors contemplated that their great-grandchildren would display their industry and their genius in the space assigned to themselves to-day, they could not have more effectually provided for such a contingency.

These fittings, therefore, formed a remarkable contrast to many of those on the foreign side, which were remarkable for lightness, elegance, and fitness for their purposes.

CHAPTER VIII.

FOREIGN AND COLONIAL DEPARTMENTS--*continued.*

CEYLON—CANADA—AUSTRALIA—VAN DIEMEN'S LAND—THE CAPE.

It has been ably observed by a popular writer, that “the great social lessons suggested by the completion of the Exhibition of the Industry of all Nations, were not less valuable than the educational.” Of all European countries, England certainly had been the least visited by foreigners: they admired our industry, they purchased our solid manufactures, they dreaded our prowess and ambition; but the climate, the expenses of travelling, the absence of popular amusements, deterred them from visiting our shores, or drove them away before they had an opportunity of fully appreciating those personal qualities, which, when known, inspire respect, confidence, and permanent good-will.

But they came at length; and before proceeding further, we shall do well, perhaps, to enumerate the nations which co-operated with us, and filled with specimens of their industry, the eastern wing of the Crystal Palace.

France and Austria stood first in the number of their contributions, although Prussia carried off the palm in sculpture, with Keiss's vigorous poetical Amazon, already described. We had also Norway, Sweden and Denmark, Holland and Belgium; the Hanse Towns and Northern States of Germany; several of the minor states of the Zollverein, Saxony, Bavaria, Wurtemburg; the republics of Switzerland; the kingdoms of Piedmont and Sardinia; Tuscany;

and the Papal States. The kingdom of Naples alone, to the eternal disgrace of her government, refused to have any share in contributing to the universal mart, and therefore tacitly declined to rank among civilized nations. Then came Russia, Spain, and Portugal; Mahomedan Turkey, Egypt, Persia, and Tunis; Pagan Western Africa, and the converted islanders of the Pacific. The American Continent answered us from New Granada, Mexico, Peru, Brazil; and, although last, not least, the United States aided us in this great work.

In addition to our foreign friends, whom courtesy compels us to name first, our colonies and dependencies, many of which, although much talked of, are less known to us than foreign states, made up a goodly array. Among these Canada, Nova Scotia, and New Brunswick, corn and timber-bearing, held a foremost rank, grouped with the barren sheep-walks of the Cape; the great emigration-fields of New South Wales, Port Philip, and South Australia, famous, too, for minerals; Van Diemen's Land, the alpine island of Australasia; New Zealand, the most romantic, healthy, and unprofitable of all our settlements; Bermuda, where the name of the chairman of the Executive Committee will ever be revered as the re-introducer of agriculture and horticulture. The Bahamas, famed for pine-apples, turtle, and shells; many West Indian islands; and St. Helena, chiefly remembered as the prison-house of a great captive; Ceylon, also, and the fortress of Malta, joined for that time together. Ceylon is prolific in fibrous materials, many of which may be well employed as substitutes for flax and hemp. Some of these were shown in the raw and manufactured state. The earthenware of the Cingalese is more curious than valuable; the art of pottery with them being, in all probability, not more advanced than in the time when Ptolemy and the Arabian navigators first visited

“The utmost Indian isle, Taprobane.”

The same remark will apply with equal truth to their

agricultural and manufacturing implements. The Cingalese women may still be seen grinding their corn, "two at one stone," as described in Scripture. The bows and arrows employed by the wild Veddahs of the Ouvah and Bintenne districts, in the hunting of deer and buffaloes, were remarkable for little beyond their simplicity and diminutiveness.

The coffee, the cinnamon, and the cocoa-nut of Ceylon, are articles well known in the commercial world: they are equal, if not superior, to the production of any other country. There were also to be found models of the buildings, machinery, and implements employed in coffee plantations in Ceylon. Models of the Cingalese fishing-canoes, of very singular and beautiful construction, unlike those of any other country, were displayed with their nets and gear on a proper scale.

First, in value and importance, were specimens of *cinnamon*, a spice highly prized from long antiquity, and peculiar to the "utmost Indian isle." Java has in vain attempted to produce cinnamon that should rival the fine spice of Ceylon, and the rough coarse bark grown on the Malabar coast cannot be compared with it. Cinnamon is the bark of the *Laurus cinnamomi*, freed from its outer cuticle, and removed from the sticks in long narrow slips: these pieces of bark are rolled into *pipes* or *quills*, in layers of three or four, and are dried gradually first in the shade, and then in the sun. A cinnamon plantation of 800 acres will produce annually 400 bales of spice, of 100lbs. each. The present consumption of cinnamon of Ceylon growth is about 3,500 bales per annum, of which not more than the 500 are used in this country; the remaining 3,000 are taken chiefly by France, Spain, and South America.

Of far more recent date, though equally important as an article of commerce, is coffee. Twenty years ago, the *Caffea Arabica* was scarcely known in Ceylon. It was not until the years 1832 and 1834 that a very few Europeans commenced the cultivation of the coffee-bush. There are now 300 estates, comprising 50,000 acres of land, all under

coffee ; the shipments amounting to 350,000 cwt. annually. This article is all grown inland, at various altitudes, the best being from the highest estates.

Coir fibre and rope is made from the outer husk of the cocoa-nut : the kernel of the nut yielding a most useful oil by pressure, which is exported to Europe in large quantities.

Paddy is rice with its natural skin upon it, and in this state is given to all sorts of cattle and poultry. The rice of Ceylon is not nearly so fine as that brought to this country from Carolina and Bengal, but it has very nutritious qualities, and the Cingalese and many Europeans prefer it to any other description.

The woods of Ceylon are scarcely inferior to those of any other country, and exist in great variety. There are upwards of four hundred kinds, of which one-half are employed for a variety of purposes, the remainder being useless. The ornamental woods are ebony, calamander, satin, cocoa-nut, peyimbeya, teak, tamarind, jack, palmyra, &c. The most abundant of the woods used for house and ship-building, of which specimens were sent, were halmanilla, teak, morotto, dawete, mangoe, keena, hall, and horra. Besides *coir*, there are several fibrous substances in Ceylon, capable of being turned to useful purposes. Amongst those forwarded to the Exhibition were fibres, both in their natural and prepared state, from the pineapple, bibiscus plantain, *Sanseveira zelonica*, and Adam's needle. There were a number of gums and resins unknown in this country, most of which are employed medicinally by the native practitioners. Besides these, a collection of medicinal plants, roots, and seeds, in a dried state, were found. Many of them possess valuable properties, well known in Ceylon, in the removal of fever, dysentery, liver complaint, and cholera. The Dutch and Cingalese doctors seldom have recourse to any but vegetable medicines, and these are often found to succeed where European remedies have failed. The collection was forwarded by Mr. T. Piries, of Kandy.

Under the head of Machinery, Implements, &c., we found three models of the various works and their fittings, as employed on coffee estates. First, there was the *pulping-house*, with its *pulpers*, *cisterns*, &c., for removing the outer red husk of the coffee berry, and afterwards washing the mucilage from it. Next was the stove, and moveable trays running on wheeled platforms, whereon the washed coffee is exposed to the sun in its inner covering of parchment-skin. When thoroughly dried to a flinty hardness, the berries were removed to the adjoining building, the peeling-house, where a pair of copper-covered wheels were revolving in a circular trough, under which the parchment rapidly broke, and became detached from the coffee beans.

Near these were observed another model of a stove for curing coffee. This was of peculiar construction, and fitted up according to a process which had been patented by the ingenious inventor, Mr. Clershew, of the Rathongodde estate. It was formed on the principle of curing the coffee whilst in the *parchment*, by means of a current of hot air, to be used during weather when out-of-door drying would be impossible.

The models of Cingalese palanquins might be regarded rather as curiosities than as specimens of fine work. Too much praise, however, can scarcely be accorded to the construction of the three Cingalese boats, which were unique, not only as specimens of handicraft, but as models of very singular and beautiful vessels. The long sailing canoe, to be fully admired, should be seen in full sail when going at a speed of fourteen miles the hour, which it frequently does. The flat-bottomed fishing dhoney, with its nets and accoutrements, was a very pretty thing. The large dhoney was such as is employed in the coasting trade of Ceylon, for the transport of rice, tobacco, salt, betel-nuts, &c.: they vary in size from 30 to 200 tons; and not the least singular feature about them is, that not one iron nail is used in their build, nothing but wooden pegs and coir string holding the

planks and beams together. The plough, harrow, and rake of the Cingalese agriculturist attested the little improvement effected in their operations, which have, no doubt, remained unchanged during the last 1,800 years.

Amongst the manufactured articles, the most attractive was, undoubtedly, a table and stand of ebony, richly carved, and beautifully inlaid with the many-tinted woods of Ceylon. There were also a desk composed of porcupine quills, a carved ebony box, an ivory stand in imitation of a cocoa-nut blossom, and some other trifles. These formed but a tithe of what might have been exhibited, had time permitted.

There were some rather grotesque specimens of native pottery, the only one worthy of notice being a painted tea-pot used by the King of Kandy.

There were a number of specimens of cordage, &c., woven from the fibres previously named; also a pretty Kandian mat, and several ornaments displayed by the Kandian kings on state occasions, made from fibres, and dyed with indigenous roots.

The Veddah bows and arrows were such as are actually employed in the present day by a wild and almost unknown race of Cingalese, in the pursuit of deer, buffaloes, and wild boars. This singular caste of aborigines dwell entirely amongst rocks, or perched in trees like monkeys, living chiefly on roots, seed, and a little deer or buffalo flesh. The manufactured oils of Ceylon were numerous, though most of them are at present unknown in this country. They may be divided into medicinal and commercial. Many of the former are said to possess valuable properties, yet, with the exception of the castor oil, they are not known to any but native practitioners. These were forwarded by Mr. Piriess, of Kandy. Of the oils of commerce, the cocoa-nut, cinnamon, lemon-grass, citronella, and kekuna are tolerably well known, the first being highly useful for burning in lamps; the second is chiefly employed in medicine and confectionary.

Arrack is a spirit distilled from the fermented juice of

the cocoa-nut tree, called *toddy*, and has long been known in England as forming the chief ingredient of Vauxhall punch. The sample sent was very curious, having been upwards of thirty years in bottle, and coming originally from the cellar of the last Dutch governor of Ceylon.

CONTRIBUTIONS FROM CANADA.

By crossing the breadth of the avenue we travelled from Ceylon to Canada, and were within sight of the Cape of Good Hope, Van Diemen's Land, and the produce of the three Australian colonies of New South Wales, Port Phillip (or Victoria), and South Australia. Canada made the best display, as was to be expected from the energetic character of the people, the means they had of obtaining early intelligence, of conveying their goods to this country, and obtaining the cooperation of the governor, the earl of Elgin, and their local authorities. The Canadians held a preliminary exhibition of native produce, and selected from that exhibition the best, as specimens of raw produce and manufactures.

The most prominent object was a fire-engine from Montreal, which carried off the first prize at the Canadian exhibition of industry, and was sent, by subscription among a few patriotic Canadians, to show what the mechanics of that fine colony could do. As a carriage, it was extremely handsome. The panels were adorned with paintings of Canadian scenery, views of a great fire at Montreal, the principal churches, banks, and other public buildings, and figures of an Indian in snow shoes in winter costume, of a fireman, &c., executed with a spirit and feeling of reality which raised them above the class of ordinary coach-painting. The body was of copper, from the rich copper mines of Lake Superior, lined with wood. The tool-box was of mahogany. The mechanical arrangements seemed good, and the finish of both the wood and metal work was most creditable to Canadian workmen. It was followed by a hose-box on

two wheels, to carry 300 feet of hose, and weighed altogether 25 cwt. It would pump up water from a depth of 27 feet; and according to the statement of the gentleman who manufactured it, would throw 170 feet high from 300 feet of hose. Fire-engines throughout both British and republican America are drawn by men, and not by horses. They are usually the property of young men associated into voluntary companies, who take great pride in adorning their respective engines. Hence the profusion of painting and other ornamental decorations. Over the fire-engine was suspended a canoe of white birch, which presented no especial difference from canoes we have seen a hundred times, except its size; but this canoe was actually paddled 3,000 miles of lake and river navigation, with a crew of twenty men, before being placed on board a steamer for England. It was the same description of canoe employed by the Hudson's Bay Company in their annual journeys to the vast preserves of fur-bearing animals under their command. We should have been pleased if it had been accompanied by one of the *voyageurs*, whose gay costume, and songs, and semi-savage manners, have been described in the book of Sir George Simpson, late resident governor of Hudson's Bay, or as it is now officially named, Rupert's Land, and several North American travellers.

A piano, a large French bedstead, a set of tables and chairs, all elaborately carved out of Canadian black walnut, next came under our notice, as remarkable specimens of a wood as yet little known in this country. In colour, size, beauty of grain, and polish, it was equal, if not superior to the best specimens of French and Italian walnut. A slab, which formed part of the Canadian trophy in the central avenue, was cut from a tree which made 27,000 feet of available timber. The workmanship of this furniture, although very fair, offered nothing remarkable for praise or blame. We liked the emblematic beavers carved round the edge of the table; but not the same animals crawling like rats on the cross bars of the

legs. Among the chairs were a set unpolished, and fashioned after some introduced into America by the earliest settlers. It was reported that her majesty had condescended to accept them. One Canadian gentleman was under the impression that the originals had been imported from England in the sixteenth century, by Sebastian Cabot; but that is unlikely, because, although Cabot discovered Labrador, there is no evidence that he formed any settlement in Canada at all. The originals are probably of French origin, and not older than the time of Louis Quatorze. Around the fire-engine were arranged a set of Canadian sleighs. The white one was a cutter for one horse; the next, an elegant long carriage of very graceful curves, was a tandem sleigh; the largest was for a pair or four horses, and was made after the fashion approved by the Military Tandem Club. With the sleighs, we must notice a set of harness that hung on the wall, the saddles covered with bells, and adorned with pendant plumes of blue horse-hair: white plumes of the same material were arranged to wave from brass spikes between the ears of the prancing horses. On a bright winter's day we can imagine no prettier sight than the whole turn-out, with its blood horses, ringing bells, fair ladies wrapped in furs, and dashing fur-wrapped driver, careering across the hard snow or the sounding ice of a frozen river. Furs, skins, horns, and Indian curiosities filled up the interstices of the Canadian collection. The head and wide-spreading horns of a gigantic moose, or elk, might be compared with the European variety of the same species, from the Lithuanian forests, exhibited in the Russian section.

Before we quit Canada, however, we must not omit to make mention of the enormous Canadian timber-trophy, and of the importance of the timber trade in this valuable colony. The Canadas are almost entirely divided by the Ottawa or Grand river, which forms the great highway of the timber trade, on which from eight to ten thousand men are constantly employed; an

army waging continual war with the denizens of the forests. The white and red pine have as yet formed the chief timber exports of Canada, which are floated on immense rafts down the Ottawa and the St. Lawrence, a distance of from six to seven hundred miles, to Quebec. A single raft frequently has a surface of three acres, and appears at a distance like some land-slip, or island, huts and all, sailing down the river; broad thin boards serve for sails. Some of the white pines yield planks five feet in breadth, and the largest red pine will give eighteen-inch square logs as much as forty feet long. Of the pine order was the hemlock, a ship's futtock of which was shown in the trophy; and close by it was a thick plank of a beautifully-feathered and highly polished dark wood, from the fork of a black walnut. The tree from which this plank was obtained was a hero of the forest, probably of more than a thousand years' growth. Its circumference at the ground measured 37 feet. The whole tree was cut up into 23 logs, and yielded more than 10,000 feet of timber. Another furniture wood in the trophy was the curled maple, little inferior to satin wood. A bird's-eye maple veneer was also shown. The other timbers in the trophy were more generally known. The last however we noticed was a little log near the floor, with light edges and a dark centre, marked iron wood,—of no earthly use, said our native informant, "It won't float, it's the contrariest wood in creation; if you want a straight piece, and half break your heart with hard work to get it, it will twist itself crooked in no time, and if you mark out a crooked piece, as sure as sunshine it will stretch out as straight as a line; it's as hard as iron and as heavy as lead, and as obstinate and cranky as an old mule, and never worth either letting grow or cutting down."

We have a word of advice, in view of this timber trophy, to give our Canadian friends; it is, that they begin to build ships of their better woods. Their first-built craft stand but four years A. 1. on Lloyd's list.

They do right well to send a cargo of timber to England to help to pay their cost, but are not profitable afloat. We have to face the world now with our ships. Canada has no longer any advantage, and can only hold her place in ship-building, whether for sale or trade, by aiming to build as seaworthy and durable vessels as the Northern and United States. Cheap run-up ships are the dearest in the end; try, therefore, your walnut, red oak, hemlock, and rock elm, and use the pine only where pine is best, and where first-class vessels use it.

The total value of the export of timber from Canada in 1849 was £1,327,532, of which not less than £1,000,000 worth came to England.

AUSTRALIAN CONTRIBUTIONS.

The colonies of Australia, although among the most important of our possessions as producers of raw materials required for our staple manufacturers, as large consumers of our manufactures, and as great fields for emigration, had nothing very new or very showy to exhibit. New South Wales, Port Phillip, and South Australia, all sent barrels of fine wheat and flour, which were satisfactory as proving that the intending colonist might depend on cheap bread in those distant regions. Australian wool and tallow are to be seen in such quantities in the warehouses of London and Liverpool, that we need not dwell on those great and annually increasing sources of wealth. The timber, although much of it was good, especially from Van Diemen's Land, and some specimens very ornamental, is not likely to become an article of commerce with this country. The distance is too great to enable it to stand the competition of countries nearer at hand. Van Diemen's Land sent the jaws of the sperm whale—another source of colonial wealth—often hunted down from the shores of that island.

South Australia supplied specimens of the rich copper mine of Burra Burra, which restored the fortunes of that colony, and rendered it one of our most flourishing pos-

sessions, at a time when, under the ruinous results of an empirical system of land-jobbing and colonization, it had sunk into the lowest state of depression and stagnation: abandoned by men of enterprise or means, it was on the point of becoming a mere sheep walk. It is a curious fact, that although the copper exports of South Australia exceed a quarter of a million sterling per annum, no copper mine in that colony has paid a dividend except the Burra Burra, but that pays 1,500 per cent. On the walls of the South Australian section hung a set of clever water-colours, representing the country round this Aladdin's lamp of a copper-mine, and various Australian scenes, bullocks in drays and stockmen riding after cattle. On the wall appropriated to New South Wales, was a beautiful view of Camden, where Macarthur first introduced the fine-wooled sheep, which has proved a living mine of wealth to the whole continent of Australia. Our colonial brethren, who know well how they are appreciated in the City, will excuse us from dwelling on sources of greatness which are more felt than seen: there is nothing picturesque in a sack of wheat, though the grain be "heavy and bright-coloured;" there is nothing interesting in a tin of preserved Australian beef, excellent though it be, unless to a hungry man; little variety of "taste or colour" in a fleece fine enough to make the fortune of a Yorkshire manufacturer; and, as for copper ore, the worst specimens are often the most sparkling. Bottles of Australian wine informed those who were before ignorant, that wine is as easily grown in that country as cider is here.

There was a melancholy tribute paid in the Van Diemen's Land department to its now extinct aborigines. In our forty-years' possession of that settlement we have utterly destroyed them, by as atrocious a series of oppressions as ever were perpetrated by the unscrupulous strong upon the defenceless feeble. Yet these poor people had tastes and industry too. Their bread appears to be worth reviving as a new truffle for soup by the gourmands of

Hobart Town. The specimens of the root exhibited weighed 14lbs. They obtained a brilliant shell necklace by soaking and rubbing off the cuticle, and gaining various tints by hot decoctions of herbs. They procured paint by burning iron ore, and reducing it to a powder by grindstones. They converted sea-shells and sea-weeds into convenient water-vessels; they wove baskets, and they constructed boats with safe catamarans. All these things were exhibited. Surely, then, the men whom their greedy supplanters admit to have done this, and whom the least possible pains ever bestowed on them proved to be capable of much more, ought not to have been hunted down, as we know they were, and then almost inveigled to be shut up in an island too small for even the few remaining.

The New South Wales contributions offered no sign of the aborigines' works, and probably the country contains no longer any trace of the people; as Newfoundland contributors do not pretend to an interest in the works of the lost people who once inhabited it, New Brunswick seemed to have nothing to show but the pretty models of an Indian family, the kindness of whose character was attested by having protected two maiden ladies, whose father emigrated from the United States after the American war, and settled among the tribe some seventy years ago. The remnants of the Indians and the remains of the royalists must have had many subjects of sympathy, and many feelings in common, to have maintained so long a career of mutual respect.

The whole amount of aboriginal articles exhibited was much smaller than it would certainly have been, but for circumstances deserving of notice. Of late years the political condition of the aborigines connected with various civilized nations, has been a subject more than usually interesting to the public. The emancipation of our negro slaves in 1834 having in a great measure settled that question, the attention of philanthropists was free to be directed to the persecutions suffered by the aborigines of

our colonies. This was an extensive inquiry, and some reforms took place. Then a reaction occurred; until at length the old law of force and oppression extensively recovered its influence. In this state of things the Exhibition was planned, upon the principle of an universal invitation of the nations of the earth to bring specimens of their industry and art under a common inspection. The commissioners made no exceptions; but it was impossible that they should grant a privilege, or any special advantage, even to the least favoured in actual condition. The collection of articles to be exhibited was necessarily left to the cost and activity of the contributors and their various supporters. France was to take care of her people, Germany of hers, America of hers. The peculiar claims of the less advanced aborigines for aid were discussed; but all that could be done was carefully to make known in various quarters that the Exhibition would be open to them. The result has been, that the same circumstances which render them inferior to civilized men in accumulated property and in acquired knowledge, have operated to leave their show of industrial development in the Exhibition somewhat meagre, whatever equality of capacity may be conceded to them, and however acute their natural intelligence.

The Cape of Good Hope sent one article deserving special notice—the ivory of an elephant's trunk, of 163 lbs., which must be a fine specimen. Ivory is chiefly bought of the natives; and, from Mr. Gordon Cumming's account of his own trading, its mystery may be interpreted to mean extraordinary hard dealing on our part. He had carried into the interior muskets, for twenty of which he had paid £16, and obtained ivory in exchange at a profit of 3,000 per cent., which, as he was informed by merchantmen, was "a very fair profit." To be sure, the manner in which the black chief, of whom he bought the ivory, had obtained it, by oppression inflicted on the Bushmen who killed the elephants, invites little consideration for that chief; but the whole story furnishes a

fresh argument in favour of the civilization which we, consumers of this beautiful product of the desert, are bound to use all means to substitute for its existing barbarism. The South African assortment of *karosses*, or cloaks made of the skins of wild animals skilfully dressed, ostrich feathers, and ivory, represented the aboriginal produce, for which the Cape traders carry into the wilderness to the native tribes, beads of many colours and sizes, brass and copper wire, knives and hatchets, clothing, guns, ammunition, &c.

CHAPTER IX.

NUMBER OF VISITORS—SOLIDITY OF THE BUILDING—AMUSEMENTS—ORGANS—PIANOFORTES—BEES—MOONLIGHT EFFECT.

WE have promised our readers that, in the record of our retrospective visits to the Crystal Palace, we should depart from the dull routine of ordinary description—the methodical precision of the pedant, who never leaves a subject till he has hunted it fairly down, till he has exhausted the patience of his listeners in never-ending disquisition on every possible variety, from class A to class Z, that in all imaginable profusion, culled from every quarter of the globe, was crowded within the bounds of the fairy structure. We shall, for a short period, altogether leave the contemplation of these matters, and revert to a renewed admiration of the building itself; its extraordinary lightness, both aërial and architectural, its matchless solidity and strength, and its wonderful adaptation for the reception of the selected treasures of the whole earth, as well as of the congregated thousands of its inhabitants that crowded in daily-increasing numbers to gaze upon and enjoy them.

Indeed, the human tide that, from the very day of the

opening of the building—from the 1st of May, 1851,—an epoch that will be celebrated in every future age—flowed with increasing force into the interior of the palace, was greater than even the most sanguine expectation had anticipated; every week the numbers rose to a higher figure, every week the stream of wealth that flowed into its exchequer was more deep and copious. It was at one time proposed to limit the number of visitors to 60,000, but the continual tramp of these 60,000 shook not in the slightest degree the solidity of the building; the galleries, the stairs, the floors, were all as buoyant, as elastic as ever; and, although full and free limit was finally afforded to as many thousands more as chose to enter, still there was “ample verge and space enough,” and the fairy structure stood unshaken and unharmed.

From the country the rural population, in many instances headed by their pastor, or their chief magistrates, came in admiring throngs, clad in their smock-frocks, “all lily-white,” thronged the agricultural departments, and took their fill of wonder and delight; the population of our manufacturing towns besieged, *en masse*, the departments of mechanic art and invention, and greedily devoured the mental feast that was presented to their eager gaze. The very schoolboys, too, and youthful maidens, had their holiday trip within these precincts, which often resounded to their clamorous and innocent mirth, and re-echoed to the sound of castanets, and merry feet that beat the ground in jocund hilarity.

In the meanwhile, to delight the more imaginative ear, at stated intervals the solemn organ, from various parts of the edifice, breathed its magnificent harmonies around, for there were several of these noble instruments within its walls. The most celebrated among them, the Leviathan, which reared its lofty structure at the western end of the gallery, was of the largest class of church organs, and its size and extent may be judged of from the synopsis which we shall give of its contents. It was built by Mr. Willis, a young London organ-builder, who doubtless sought to

make his fame by this great effort; and he certainly deserved high praise for the boldness and spirit of his enterprise, by which the Exhibition was put in possession of a specimen of far greater magnitude and costliness than it would otherwise have boasted. The instrument referred to, which was constructed somewhat after the German model, had three rows of keys (or claviers)—the great organ, the choir organ, and the swell, the compass of each being from C C (in the bass) to G in alt., 56 notes. It had two octaves and-a-half of pedals; and seven coupling stops, by means of which the three rows of keys could be united in various ways, and the pedals brought to act on each of the three claviers at pleasure. The pedal organ contained 14 stops, the total number of pipes being 576. The great organ had 20 stops, numbering in all 1,456 pipes. The choir organ, consisting of 14 stops, contained 760 pipes. The swell organ, with 22 stops, commanded 1,682 pipes. The total number of stops, including couplers, was 77; of pipes, 4,474. This organ had the application of the pneumatic valve, the invention of Mr. Barker, and first applied, we believe, by Mons. Cavallé, the French organ-builder. The effect of this movement was to lighten the touch, which, in instruments of great magnitude on the old system, was usually so deep and heavy as to fatigue and distress the player, and render difficult or impossible any passages of rapid execution. With the pneumatic valve, however, the touch of the largest organ is rendered almost as facile and agreeable as that of a pianoforte. The principle consists in connecting with the movement of each key a small reservoir, into which, on the pressure of the key, the wind rushes from the main bellows of the instrument with such force as to relieve the finger of the performer from that effort which would otherwise be necessary. The same principle has been also applied by Mr. Willis to the mechanism for drawing the stops, which, in addition to the old method of registers placed on each side of the performer, he effects by means of little brass knobs placed over the keys, so

that the player may, by an instantaneous touch of his thumb, while playing, effect the desired change. The organ was what is technically termed a 32-feet instrument, which signifies that the deepest-toned pipe is nominally 32 feet in length—giving the note which the Germans distinguish as C C C C, in other words, two octaves lower than the fourth string of a violoncello. Besides the English organs, of which there were several remarkable specimens, there were two of foreign manufacture, and of considerable magnitude, one from Germany, the other from France. The former was the work of Herr Schulze, of Rudolstadt. It had 16 stops, two rows of keys and pedals, and was suitable for a church or chapel of moderate size. Some of the stops, particularly the flutes and the labial metal stops, were of very good quality, having that peculiarly plaintive tone which is scarcely ever met with but in the German organs. The chorus or mixture stops, as in most German instruments, were somewhat shrill and harsh to English ears. The French organ was well placed in the main avenue, and stood in an oak case, some 30 feet or more in height. It was the production of Monsieur Ducroquet, of Paris, and contained 20 stops, two rows of keys, and two octaves of pedals. Mr. Barker's pneumatic valves were also applied here, and the mechanism generally appeared to be exceedingly good. The quality of the instrument was also worthy of praise—being brilliant without harshness in its full power, and delicate but not feeble in its solo stops. The reeds (for which the French have long been celebrated), were of excellent quality. In addition to the soul-entrancing symphonies that were poured forth by this king of instruments, the more brilliant notes of the piano, touched by a master-hand, failed not to draw a crowd of delighted listeners within the magic sphere of its influence, and imparted a sort of drawing-room festivity to the place, graced as it was with the loveliest forms of beauty and fashion, and adorned with every object that the combined efforts of science, of industry, and of art, could lavish to enhance its perfection,

and support its unrivalled claim to the admiration it elicited from all quarters of the globe.

We will here pause awhile, and allow our readers to indulge their imagination in a retrospect of the pleasures they doubtless enjoyed in their visits to this renowned temple of industry and art; for who, save and except the gallant and eccentric legislator, whose sayings and whose doings the inimitable *Punch* has delighted to record and to celebrate—who, we ask, that could command “a splendid shilling,” failed to pay their respects to the Crystal Palace. Distance, however remote, presented no obstacle to the adventurous traveller; perils by land and sea were disregarded, mountains were scaled, deserts passed over, and the unfathomable deep was crowded with sails. Even extreme old age, and crippled infirmity, found ways and means to enter and enjoy the sight. Witness the marvellous old dame, from Cornwall, we believe, who, past her hundredth year, travelled up to town, and paced with willing feet through the various intricacies of the place, and gratified her aged eyes in beholding wonders, such as in her juvenile days had never been even dreamed of in the wildest flights of the most extravagant imagination. Tender infants, too, in maternal arms, were carried about, that in after times they might be able to say that they, too, had been within the walls of the wonder of the world.

The scene, however, was not altogether an idle one. Industry on an extensive scale in the midst of all this mirth, bustle, and enjoyment, was steadily going on in more than one part of the immense fabric. Let not our readers be startled, when they are gravely assured, that an extensive manufactory of two of the most useful articles in domestic life was in full progress, perfecting its produce without hands, though not without living impulse—that more than 200,000 little animated beings were diligently engaged in their occupation, an occupation which man, with all his chymic lore, cannot imitate, uninterrupted by all the noise and confusion around

them, and joining to the "busy hum of men," their own industrious murmur—that winged race, in short, which, as Milton beautifully relates—

"—— when the sun with Taurus rides
Pour forth their populous youth about the hive
In clusters; they among fresh dews and flowers
Fly to and fro, or on the smoothed plank,
The suburb of their straw-built citadel,
New rubbed with balm, expatiate and confer
Their state affairs :" * * * *

There were indeed several interesting contributions of bees and beehives, and contrivances for securing swarms, not only from various parts of the United Kingdom, but also from France, Germany, and the United States of America. Among the most interesting were those of Mr. Milton and Mr. Neighbour. The inhabitants of Mr. Milton's "mansion of industry," which, with his "royal Alfred hive," and the "unicomb hive," occupied a large space close to the wall of the north transept gallery, the whole being enclosed in a large glass case, forming, in fact, a very fine apiary, consisted of four swarms of bees, the first of which was hived on the 20th of July, 1850; the second and third on the 23rd of the same month, and the fourth on the 31st. As hiving the bees after swarming is one of the operations which requires the greatest care and attention on the part of the bee-keeper, it may be as well to mention the mode adopted by Mr. Milton, of successively hiving the four swarms of bees within a few days of each other, and uniting the whole together, "without any trouble or fighting about queens," the immense population, amounting, according to Mr. Milton, as we have before stated, to 200,000 strong, continued to work harmoniously together, after a residence of nearly four months in their apparently close quarters. The first of these swarms came out about three o'clock on the 20th of July, as above, and was immediately secured or hived in a wooden box, which was left in a shady place until eight o'clock in the evening, when it was removed to its intended position.

The two swarms, which came out on the 23rd of July, were each hived in a common straw hive, and at eight o'clock at night a cloth was spread on the ground near to the box-hive, a brick being placed on the cloth, on which to rest one of the sides of the box, for the purpose of admitting the bees into the box. After being tumbled altogether into the cloth by a smart rap on the brick with one edge of the hive, the other swarm was treated precisely in a similar manner; both swarms were speedily underneath the box, which was left undisturbed till the following morning, when it was put back again to its proper position in the apiary. On the 31st of the same month the same process was performed with the fourth swarm.

Contiguous to Milton's mansion of industry was the "Royal Alfred hive," named after his Royal Highness Prince Alfred, on whose birthday, the 6th of August, 1844, the first experiment of placing bees within this newly-formed hive was successfully made. The principal novelty in this hive appeared to be the inclined floors, by which the bees could easily ascend to any part of the hive, and the dead bees and other refuse, instead of remaining, as on level floors, necessarily fell to the bottom, and so were easily removed. There were, on the two upper sloping compartments, covered over with flaps hung with hinges, three bell glasses in each, which would hold altogether about eighteen pounds of honey. By means of windows, the whole of the interior could be inspected from time to time, without any risk or annoyance. The bees might be fed either at top or in front.

Milton's revolving top hive, for which he received the Society of Arts' silver Ceres medal in 1846, consisted of a cylindrical case of straw, covered with two boards having corresponding holes in each, by turning the upper one of which the openings could be closed at pleasure. Bell-shaped glasses were placed on the top above the openings, which, when filled, might be readily removed, and fresh glasses substituted. Bees are easily hived by this arrange-

ment, by placing the hive from which they are to be removed on the revolving board, taking care to leave only one opening, and the bees will severally descend into their new habitation without any trouble, the lower hive being prepared for their reception by washing its interior walls with a mixture of sugar and beer, or other suitable sweet liquor.

Mr. Neighbour's apiary consisted of a large glass case, with parts of the sides covered with perforated zinc, for the sake of ventilation. This apiary also contained three hives: first, Neighbour's ventilating box-hive; Neighbour's observatory glass hive; and a two-storied square box-hive, with sloping roof. From this latter, the bees decamped within a week after they had been hived, owing to some disturbance, or to the dislike taken by the bees to their new habitation. The ventilating box-hive was square, and had windows and shutters. The entrance was at the back, enabling the bees to go to Kensington-gardens, or other resort. In front, at bottom, was a long door hung with hinges, so that all dead bees and refuse could be easily cleared away. By means of a perforated metal slide in the floor, ventilation, which some apiarians contend for, was effected. Above the wooden box was placed a bell-glass, into which the bees ascended to work by means of a circular opening in the top of the square box. In the top of the bell-glass was an aperture through which was inserted a tubular trunk of perforated zinc, to take off the moisture from within. The observatory hive was of glass, with a superior crystal compartment, an opening being formed between the two. A straw cover was suspended over the upper compartment by a rope over a pulley, which cover was raised up by the attendant at pleasure. The larger or bottom compartment rested on a wooden floor, which had a circular sinking therein to receive the bell-glass. A landing-place, projecting, with sunken way, to enable the bees to pass in and out, completed the contrivance.

These exceedingly curious little palaces of industry

proved a great point of attraction to the labouring population, and drew many a group of honest rustics around them, not from England alone, but from other parts of the world as well, and much interest was exhibited with respect to the movements of their busy inmates. Her Majesty also, and Prince Albert, frequently bestowed their notice on the wonderful operations of the gifted little insects, whose undeviating attention to their own concerns, in the midst of all the various distraction of sound and sight that surrounded them, afforded an admirable lesson to those who suffer themselves to be led away from the more important concerns of life by petty and unavoidable annoyances.

In the immense variety of all these different objects of interest that solicited the attention of the curious spectator, whether scientific or otherwise, a lover of art, or a mere lounger, there was abundance of food to satisfy the appetite of all, and the daily increasing demand for it served at once to show how vast is the desire for information that influences all classes of the people; and the order and tranquillity that pervaded the moving masses, evinced not only their gratitude for the feast that was provided, but the great improvement that has taken place in the morals and manners of the lower classes, and how easily they may be led to the consideration of topics that are too apt to be regarded as belonging exclusively to the privileged few, to whom, through their adventitious advantages of hereditary rank or affluence, they are more readily accessible.

The whole of every "live-long" day, then, within the walls of the Crystal Palace, was one continued scene of movement, bustle, and excitement, from the early dawn, when preparations were made for the reception of the innumerable guests that were expected to be in attendance—first and foremost amongst whom was our own gracious Queen, who in her repeated visits to the mighty emporium, may be considered to have gained as complete a knowledge of its various contents, as the most inquisitive

among her subjects—from the hour, we repeat, when the gates were thrown open for the admission of the public, till the moment arrived for their final departure, when gradually as the lingering crowd retired, the continuous buzz arising from so many congregated thousands began to subside,—the Crystal Palace presented one unvaried aspect of delighted enjoyment and innocent festivity ; and when the shades of night at length stole over the scene, when the silence was complete, and the moon arose above the trees in the park, and shed her pale lustre upon the glittering roof of the building, another picture presented itself to the contemplation of the curious spectator, which we shall gratify our readers with describing in the eloquent language of the *Times*, and with which description we shall close our present chapter.

THE CRYSTAL PALACE BY MOONLIGHT.

To those who had seen the interior during the daytime, filled with thousands of spectators, and agitated by all the bustle of sight-seeing, it was difficult to realize the aspect which the same presented when the crowds had departed, when the gates were closed, and the police had taken under their entire control that vast collection of the trophies of human industry. One could scarcely comprehend the strength of that confidence in the law and in the security of property which reconciled 15,000 exhibitors, gathered from every civilized country in the world, speaking different languages, and brought up under different forms of government, to trust the most valued evidences of their skill, their wealth, their enterprise, night after night, to a body of about fifty policemen, paid little above the ordinary wages of labour, and armed against dangers from without with no weapon more formidable than a bâton. A Russian jeweller was the only person we heard of as showing any uneasiness in the exercise of this confidence. He wanted to be convinced that his diamonds were safe, and accordingly he applied for an order to visit them by night. His request was granted,

and he soon had a practical test of the watchful care taken of his property. Standing in front of his glass case, and satisfying himself that all was safe, he happened to turn round, and there to his astonishment he found that he had a constable at either elbow, superintending his movements, and by no means disposed, from their looks, to take his honesty for granted. We visited the Crystal Palace ourselves, but in a less sceptical spirit than the Russian jeweller, and for a different purpose. We wished to see the aspect of the interior under the influence of a fine clear moonlight, to observe how each object of interest varied in expression when looked at through a new medium, to contrast with the bustle and thronging excitement of the day the effects of silence, solitude, and darkness. Let the reader accompany us in our survey, and share in the impressions which it produced. In the centre everything was plainly revealed; the pinnacles of the crystal fountain appeared tipped with silver, and in the basin below, the ribs and sash-bars overhead and the sky beyond them, and portions of the adjacent galleries, and the occasional glimmer of gaslights, were all reflected with marvellous distinctness. An air of solemn repose pervaded the vast area; the very statues seemed to rest from the excitement of the day, and to slumber peaceably on their pedestals. Some were enveloped in white coverings, which in the doubtful light gave them a ghostly appearance; others remained unprotected from the night air, and braved exposure to cold as they had already done to criticism.

At one point of intersection between the nave and transept, Virginius under the flare of a gas-lamp from the China compartment, brandished the knife with which he had sacrificed his daughter. At another corner, and under a similar dispensation of light from Persia, a cavalier leaned upon his sword, and appeared to be calculating the number of people that had passed him during the day. Of Turkey and Egypt we could see only at the entrance the faint glitter of Damascus blades and of brocaded

muslins and trappings. All beyond was buried in darkness and mystery. The shades of night, too, fell heavily upon Greece, Spain, and Italy, though behind them, through the open girders, gleams of unexplained light were seen rising. The zinc statue of the queen rested in grateful obscurity, and Lemonnière's jewel-case had cautiously been stripped of its attractions. On the metal pipes of Ducroquet's organ some struggling moonbeams played, though without evoking any sound. The colossal group of 'Cain and his Family' looked well in a gloom which seemed suited to his expression of guilt qualified by the traces of human affection. So it was all down the eastern nave. The shadows of night, which fell heavily on some points, were strangely relieved at intervals by gas, which carried the eye forward over intervening objects to those immediately around it. Instead of looking at those things which lay nearest, attention was directed to distant and out-of-the-way spots, brought into prominence by the light streaming upon them. Policemen in list slippers might occasionally be seen flitting noiselessly to a point whence the strangers might be reconnoitred, or suddenly emerging from behind some dark object where they had remained for a time cautiously stowed away. If a court was entered, or a divergence made to the right or to the left, the quick eyes and the scarcely discernible footfall of some member of 'the force' followed. Over the whole interior a profound silence reigned, broken only at intervals as the clocks of the building rang out slowly the advancing hour. Turning towards the western half of the interior, huge envelopes of calico concealed most of the objects facing the nave, but the large trophies in the centre remained uncovered, and looked solemn and grand in the dim neutral light which prevailed. The Indian shirts of mail and the model prahus of the East were favoured by the beams of the moon. The chandeliers of Apsley Pellat and Co. caught the eye in passing, and glistened as if anxious to have their illuminating properties tested. Glimpses were again caught of remote galleries brought

into prominence by gas-lamps. In some places light shone, though whence it came appeared a mystery. In others there was almost a Cimmerian darkness. The contributions to the carriage department were swathed in calico, while the gigantic locomotives disdained any covering, and rested in grim repose. The activity of mules, spinning-frames, and looms was hushed, the whirl of driving-wheels was silent, and amidst the whole of that usually noisy department dedicated to machinery in motion, the only sound we heard was that of a cricket chirruping away merrily amidst Whitworth's tools.

CHAPTER X.

FOREIGN AND COLONIAL DEPARTMENTS—*continued.*

FRENCH DEPARTMENT—RAW ARTICLES—LYONS MANUFACTURES
—SCULPTURE AND FINE ART—DECORATIVE ART—FANS—
VASES, ETC.—ARTIFICIAL FLOWERS—BELGIAN DEPARTMENT
—FURNITURE—ARMS—LACE.

UNQUESTIONABLY the French collection, next to that of the United Kingdom, was one of the most attractive and extensive in the Exhibition. The lengthened and successful experience enjoyed by France in exhibitions of national industry, gave to the exhibitors an advantage not possessed by the majority of those contributing to the Exhibition, so far at least as concerned the arrangement and execution of necessary minor details. No class of the Exhibition was left unrepresented by our continental neighbours. The total number of exhibitors amounted to about 1,750, and the area they occupied was very extensive, both on the north and south sides of the main eastern avenue and in the galleries. In raw materials, the beautiful specimens of raw and thrown silk attracted universal

admiration ; and an interesting specimen of cocoons in the frames, in which the silkworms are reared and spin, gave a good idea of the manner in which the culture of these insects is carried on. Hemp, wool, and other textile materials, were also interesting, as well as those more delicate chemical preparations in which the French more particularly excel other nations. Specimens also of metals were not wanting, and articles of food were largely exhibited.

Machinery was likewise displayed in fair proportion, though here the superiority was decidedly in favour of the British collection of similar objects. Still considerable ingenuity was evinced in philosophical instruments, and in various kitchen contrivances ; matters, indeed, in which our continental neighbours have been long accustomed to claim a fair right of precedence.

Among the manufactures, we are bound to notice as the first in importance, the gorgeous productions of the silk-looms of Lyons, which were arranged in cases in the gallery. The cotton, wool, and linen manufactures were also interesting, and the skilful arrangement of these articles added greatly to their attractiveness. The splendid and justly celebrated tapestries of the Gobelins, and of the manufactory of Beauvais, certainly formed one of the most interesting features of the whole collection. The manufacture of Sèvres too, in richness, rarity, and costliness, was unrivalled. Much talent was also displayed in the design and execution of useful and ornamental furniture, and a vast profusion of articles of *bijouterie*, *vitrû*, &c., and jewellery were heaped around. Photographs, both talbotype and daguerreotype, were exhibited, and various objects of sculpture and of the fine arts added to the interest of the collection. We would more particularly notice among the sculpture, a very masterly group of "Eve," by De Bay, exhibited in the Gobelins room, the idea of which struck us as both poetical and picturesque, and ably carried out. The first mother appeared to be lost in a reverie as to the future destinies

of her offspring, the principal incidents of which were foreshadowed to the spectator in the bas-relief sculpturings of the pedestal. All things considered, we should be inclined to pronounce this to be one of the finest works of sculpture that the Exhibition contained. Some have given it the fanciful title of the "First Cradle," or "Nature's Cradle;" but as that does not do justice to the poetic mystery involved in the conception, we prefer the simpler title by which we have denoted it. We cannot bestow similar commendation on M. Le Seigneur's colossal group, in plaster, of "St. Michael overthrowing the Dragon," which stood in the east nave, a specimen of the more exaggerated school, which prevails to an alarming extent amongst our French neighbours. Vicious in composition, it disturbed the eye with innumerable angular projections. In fine, it had all the vice of ill-studied and incomplete action, whilst there was nothing in the character or expression of the principal figure (whose costume was absurd) to redeem the more glaring defects of the composition.

Let us return, however, to the more graceful and lighter productions for which the French are so justly celebrated, and which reveal an activity of imagination indicative of a highly developed social and political vitality—a universality of gracefulness in every article, for the use even of the poorest, demonstrating the spread of those sentiments which make taste a humble luxury for all, if not an indispensable accessory to the enjoyment of life. Throughout the French compartment no one could fail to notice the Protean shapes and styles in which the same objects presented themselves. One Sèvres vase was oriental: another was antique; a third recalled the breakfast-table of Mesdames Pompadour or Du Barri; a fourth intimated the Majolica of Guid' Ubaldo of Urbino; a fifth recalled the tazze of Jean Courtois or Liotard. One fragment of ornament was Pompeian, another pure Italian, another Louis Quinze; and thus the flowers of all time were combined in the modern Parisian bouquet.

All this variety of style—springing rather from impressions and floating recollections than from any desire to copy with servility—bears testimony to the spread of a popular knowledge of the history of art; and it could only become universal in a country in which models of art had been popularized through every imaginable variety of graphic reproduction. So long as France is likely to retain her title of “Queen of Fashion,” so long must she continue to be the cleverest adapter and remodeller of old designs. The vivacity of her artists checks any approach to fac-simile copying; and so skilfully are her revivals made, that, while they seldom fail to recal a pleasing original type, they yet possess all the freshness of novel and generally appropriate design. Thus, in the ebony cabinet exhibited by Ringuet le Prince, the mind was carried back to some of the charming pieces of furniture still to be met with here and there in the old palaces of Italy—and yet the whole was composed and modelled with so much taste and freshness, that no doubt was entertained as to the cleverness of the artist, or his merits as an original designer. Again, in Marcelin’s imitation of Indian inlaying in minute mosaic work, there was just sufficient departure from the original (principally in point of colour) to determine the work to be very clever French, instead of Oriental. To cite examples of a similar nature would be an almost endless labour; it may suffice generally to notice, as illustrative of the principle, the revivals of enamelling on copper in the Sèvres collection—the reproduction of the processes of Florentine and Milanese mosaic work by Theret—the examples of quasi-Indian embroidery of Billecoq; and the revivification of the spirit of Ghiberti and his Florentine successors in the “bronzes artistiques” of Barbedienne, and many others. It is a fact almost peculiar to France, of all the nations of the earth, that there appears to be scarcely a style or a process ever naturalized upon her soil which the Frenchman of to-day cannot produce in as great or greater perfection than that to which his ancestors were wont to carry it.

In the stained glass of Gerente, Mareschal, Laurent G'sell, Hermanowska, and Lusson, the old glories of Suger and the Sainte Chapelle are still transmitted to us. In the productions of Ponssilgne Russand, Villemensens, and Rudolphi, the Limoges enamels, with which France supplied the world in the thirteenth and fourteenth centuries, are still elaborated with a spirit equal to their prototypes. In the royal manufactory at Sèvres every variety of preparing and painting enamel on copper, which was in use in the sixteenth and seventeenth centuries, by Leonard Limousin, Jean Courtois, Penicault, Luzanne Court, Nouailhier, &c., down to Toutin, and Petitot of Bordier, is still performed with a zeal and spirit worthy of the industry and talent of the great Limousin. The charming vases, dishes, and figures in "faïence," with which the indomitable Bernard de Palissy was wont to gladden the eyes of his royal master, the great Francis, are reproduced in the highest perfection, by Avisseau. Many a frequenter of the old curiosity shops on the Quay Voltaire has been taken in by the modern ivory carvings of Normandy, which simulate the mediæval *retables*, triptycs, and *cors de chasse*, with a spirit and exactitude calculated to deceive all but the most knowing in such matters.

Again, in silks and ribbons, and in paper-hangings—while nature generally furnishes the base—flowers and other objects are indicated so gracefully, and relieved from one another with such delicacy in each case, as to convey no sensation of imperfection. It is in the almost universal exercise of a judicious taste, retaining for each object its peculiar and appropriate style of treatment, that the great strength of the French artist-manufacturers (for so they must be called) consists. Taking, for example, so common an object as the rose, how gracefully we shall find its treatment varied! On a Sèvres vase it was painted up to nature—or to Constantin (for they are nearly the same thing). On a paper-hanging of Mader's, or Delacourt's, a few bold touches of "chique" served,

at a little distance, to convey almost as perfect an idea of the flower as was given by the elaboration of the China painting. The flower transferred to Lyons silk was the same in form, but changed in chiar'-oscuro—the dark was gone, and all was light and brilliant. On a ribbon of St. Etienne the form was simplified; delicate white lines marked the separation of the rose leaves from each other, and the ultimatum of conventionality was attained: carried but one step further, the thing would become a meaningless red blot.

To descend to still more graceful trivialities, Duvelleroy has made a *spécialité* of fans, in the production of which he is perhaps without a rival. His fame extends not only over Europe, but has made its way to remote quarters of the globe. Even the Chinese, so famous for their fans, so unwilling to learn, and jealous of change, have copied his designs. It would be rather difficult to describe the truly gorgeous fan which this celebrated artist has made for the Emperor of Morocco. It is a fan of wonderful magnificence, and, to say nothing of the painting and general enrichment, the diamonds and jewels alone have cost more than £1,000. He exhibited also a set of fans illustrating the stories of the "Arabian Nights," which had been made to order for the Sultan of Turkey. But our present business is with the *éventail royal*. In this little work of art, her Majesty and Prince Albert were represented sitting in the drawing-room at Buckingham Palace, surrounded by their royal children, after a picture by Winterhalter. The handle was of mother-of-pearl, and the medallions in carved gold. In the centre of the handle were the royal arms of England, carved in alto-relievo, in the thickness of the mother-of-pearl: the lion and unicorn supported the 'scutcheon; and the two mottoes, *Honi soit qui mal y pense*, and *Dieu et mon droit*, appeared in letters of mother-of-pearl on a ground of gold. Each of the radiating branches was terminated by a royal crown, and the two principal branches bore, chiselled in the mother-of-pearl, and richly gilded, portraits of the Queen and her Royal

Consort. We understand that M. Duvelleroy employs upwards of two thousand men. This is easily accounted for, when we state that he makes fans as low as a half-penny each, and that even these have, every one of them, to pass through the hands of fifteen workmen.

Before we quit the French department, which for the present we are about to do, and enter upon that of Belgium, we must not omit to notice the display of ornamental and sculptured silver by M. Froment-Meurice, which was, taken altogether, the handsomest on the foreign side of the Exhibition, some of the works displaying an amount of artistic feeling and executive power worthy of the days of Cellini. A very handsome vase was exhibited which had been presented by the city of Paris to M. Emmeny, an engineer of eminence, to whom the Parisians are largely indebted for their present water supply. The sculpture was by Klagmann, and was partly done *en repoussé*, or by punching, and partly cast; the whole richly chased and engraved. The little groups on either side were two out of twelve representing the months, or seasons—very elegant little works, about ten inches high, and all done *en repoussé*. Another attractive and beautiful object in the French department was the case containing Constantin's artificial flowers. We wish we could, within our limits, do justice to the exquisite truth and delicacy exhibited by M. Constantin in an art which he may fairly be said, if not to have created, at least to have brought to a point of excellence which it had never reached before. We may briefly observe, that these productions were hardly to be called artificial flowers, in the every-day sense, being in beauty and in almost everything but smell, identical with those of nature. Roses, lilies, hot-house plants, ivies, and endless other varieties, were here before us, as it were, *in propria persona*, and not always in full bloom, but occasionally represented, with most truthful effect, in their way of declining and withering, with the canker-worm at the core, and blight upon the face. All these wonderful

realizations were produced in one material—cambric ; and very high praise is due to the artist who has achieved what he has done with it.

THE BELGIAN DEPARTMENT.

In close conjunction with republican France we had the little constitutional kingdom of Belgium occupying the bays on both sides, and a portion of the northern galleries of the eastern nave, and its contributions included specimens of almost every branch of industrial occupation ; agriculture, commerce, manufactures, mining, and fine arts, were all creditably represented. For more than four centuries this flourishing state has maintained its manufacturing and agricultural position, notwithstanding the various conflicts of which it has been the battle-field, of revolutions and political changes which it was doomed to undergo, until its final establishment as a limited monarchy. As far back indeed as the days of imperial Rome, the Flemish cities were celebrated for their manufactured goods. In the latter part of the fifteenth century, Brussels, Antwerp, Louvain, and Ghent, employed an immense population in woollen manufactures. Ghent alone had upwards of 30,000 looms ; and the weavers of that city mustered 16,000 men in arms. Mechlin and Brussels originated the thread lace of inimitable texture :

“ With eager beats his Mechlin cravat moves,”

sung the mellifluous Pope in his celebrated town pastorals, bearing testimony to the undiminished value of that highly prized article in his own time ; and the black silk of Antwerp still preserves its high renown among the votaries of fashion. With only forty miles of coast, and with only two indifferent ports, Belgium struggled through many difficulties to establish a foreign trade, which at length her net-work of railroads enabled her to accomplish, and to present to the world the varied exhibition we are about to describe. And here we may observe that

the arrangement which rendered France and Belgium next door neighbours in the Crystal Palace, as they are when at home, suggests a question which the minister of commerce would be rather puzzled to answer.

Between France and Belgium there is a war of custom-houses and an interchange of smugglers, chiefly in the shape of large dogs, which carry Belgian tobacco and lace into France, and bring back French silk or some such article. Every French *douanier* is provided with a thick volume of instructions on the art of stopping, seizing, detecting, poisoning, and shooting Belgian smuggler dogs. Nevertheless, day and night—especially at night—large packs of contraband hounds, heavily laden, rush past the bewildered officers. Now, when Belgium was part of the French empire, its manufactures, its coal, its cattle, its corn, were all freely admitted into France; nothing was taxed, nothing was prohibited; since the disjunction everything that is not taxed is prohibited, and yet the line of division between the two countries is purely imaginary, and the people who, under Napoleon, were free to interchange their goods, must have had just the same wants the day after the custom-house division made it unlawful as the day before. Why, then, was interchange useful before Napoleon's last campaign, and baneful after his dethronement? But to begin our walk through the Belgian territory in the Crystal Palace. We first entered the southern bay, where we found a varied display of textiles of every kind, which seemed very little visited by the curious crowd, although, no doubt, our manufacturers in the same line gave them a close examination. There we also found the cheap mixed fabrics of woollen and cotton, the fine kerseymeres in which the Belgians can undersell our Gloucestershire and West of England men; also capital stout canvass and damask linen from districts of Flanders which grew flax and wove linen long before Belfast was founded; printed silk handkerchiefs in praise of which nothing could be said, and woollen shawls of very dull, dowdy patterns. In this department almost every kind of

woollen and mixed woollen was to be found. The sides of the next section were hung with carpets from the Royal Belgian Manufactory of Tournai, which, like the French Gobelins and Beauvais manufactories, is carried on with government money. An imposing stand of arms next attracted our attention, evincing the warlike disposition of the people; then we passed through a vast collection of saddlery articles, of boots also and of shoes, and of sportsmanlike gaiters for the service of those who shoot in woodland districts.

The collection of arms was chiefly furnished by Liege, and presented specimens of the commonest *Brummagem*, as well as of the most expensive and finished article, both military and sporting. Rifles, too, were there of the Swiss fashion, over which a paper was affixed, stating that one of the rifles, fired from a rest, at a mark four inches in diameter, at a distance of 110 yards, made 95 hits out of 100.

Behind these engines of destruction were arranged those subservient to peaceful occupations, agricultural and mineral, in all their useful variety, to processes connected with the culture and weaving of flax, hemp, and silk, in all their various branches—giving a great idea of Belgian industry and versatility.

Crossing the grand avenue, we observed several splendid carriages, and a profusion of furniture, carved and richly covered with velvet. Two oaken cabinets particularly struck us, of a grave and ecclesiastical character, ornamented with figures of angels.

On ascending to the galleries we found, at the top of the stairs, three figures, of life-size, in embroidered ecclesiastical robes, that far outrivaled all the glittering wardrobe to be seen at Madame Tussaud's. These represented the Archbishop of Paris, Affré, who was killed in the last revolution at the barricades; St. Carlo Boromneo, an Italian saint and archbishop, whose embalmed body, enclosed in a glass-case, we have seen at Florence, in the costly chapel dedicated to his memory, enriched with gold and precious stones, which is annually opened on a par-

ticular day, that the benighted bigots of that city may worship at his shrine. Our English Thomas à Becket was the last of these worthies that greeted us on mounting the staircase. At a later period of the Exhibition, however, the French Archbishop Affré gave place to Fenelon, whose *Telemaque* was so familiar to our schoolboy days ; and the Italian saint, a good man, by the by, had also disappeared to make room for another French worthy, but the renowned St. Thomas à Becket stood his ground to the last. All these three lay figures, however, for some reason or other, wore white gloves, instead of the purple gloves of the archbishop, and the bright scarlet of the cardinal. While examining the embroidery of these robes, which the maker warranted to wear a hundred years, and *then clean*, we found ourselves side by side with two gentlemen actually wearing, the one *scarlet*, and the other *purple gloves*; such were the strange coincidences of the Exhibition ! They proved to be Cardinal Wiseman and one of his bishops examining the costume of Thomas à Becket !

In the same galleries were cases of medals, cameos, bronzes, a shield and dagger, and other ornaments richly chased in iron, all displaying very considerable taste and executive skill ; but, to own the truth, neither statuary, nor lay figures of archbishops, nor the large display of Roman catholic works, nor any object connected with art, science, or literature, excited half the sensation among the ladies, as did the tempting outspread of delicate lace, from Brussels, Mechlin, and other districts, for ages celebrated for its production. It was curious to witness the enthusiastic admiration with which the various articles of dress, robes, flounces, veils, collars, &c., fabricated out of the fine spun thread with more than Arachnean delicacy, were regarded by the numerous female visitors who absolutely haunted the enchanted spot, devouring with their eager eyes the coveted spoil; while exclamations of the most enraptured delight burst from their ruby lips. This love of dress may be considered inherent in the sex; from the unenlightened savage to the courtly duchess, all are swayed by its in-

fluence. We remember an amusing story by Peter Pindar in evidence of its supremacy, in which he relates how on a visit of some country female cousins to the great metropolis, when he thought equally to astonish and delight them by a first sight of St. Paul's, which was breaking on their view as they paced up Ludgate-hill, the eyes of his fair companions were suddenly attracted by a rich display of ribbons, laces, and shawls in a mercer's window, from which no argument or inducement held out by the disappointed bard, could for a long time prevail on them to withdraw their eager attention.

The Belgian diapers and damasks, although somewhat coarse, were serviceable, and of tolerably good design; we cannot however commend those which had the human figure introduced in them; one in particular was intended to represent the king of the Belgians on horseback, the effect of which was exceedingly ugly and inappropriate.

In the way of machinery, the great establishment at Seraing for the manufacture of steam-engines, and all kinds of machinery, which was founded by Cockerell, under the patronage of Napoleon, and afterwards supported with capital by the father of the late king of Holland, sent several specimens of heavy work of a respectable character. The steady-going pace approved of on the Belgian railroads, viz., fifteen miles an hour, with sundry stoppages, by no means demands the flying engines we impatient Englishmen require. M. Presmany, writing his opinion of England in the Paris journal *La Patrie*, says, "An Englishman never saunters, but always rushes forward like a mad dog." Probably the facetious journalist never in his younger days sauntered down Bond-street himself; had he done so he might have seen specimens of lounging and idle *nonchalance* quite equal to anything of the kind to be met with on the Boulevards or the Tuilleries of his own most delightful capital of fashion, and the *dolce far niente*.

CHAPTER XI.

FOREIGN AND COLONIAL DEPARTMENTS—*continued.*

THE UNITED STATES.

THE number of articles sent from the United States to the Exhibition was neither what was expected of them, nor, we believe, did it adequately represent their capabilities. There were, nevertheless, many things in their collection which presented features of peculiar interest, and which did credit to their industry, ingenuity, and skill. Foremost among the articles displayed in this division of the Exhibition were a coach, three or four waggons, "a buggy," technically so called, and a trotting "sulkey." We call these "foremost," because, both by the prominent place they occupied, and on account of the real merit of the vehicles themselves, they were really so. The coach—styled by the exhibitor a "carriola"—was a very creditable piece of workmanship, of good design, apparently most thoroughly well built, and finished with great regard to good taste. There was nothing of the gewgaw style about it. The colour, decorations, mountings, finish, and ornaments, were all rich and neat. The carvings upon it were admirably well executed, and for symmetry and good keeping in every part, from the step of the footman to the board of the driver, it deserved high commendation. The wheels were much lighter than in carriages of a similar kind in England. This is claimed as a decided improvement. Certainly the appearance of the vehicle is improved by the absence of that bulkiness which gives a lumbering aspect to many an English carriage; and if the roads of our transatlantic brethren are not too rough to deal fairly with such wheels, we know not why they should be considered unsafe upon English turnpike roads.

The other vehicles exhibited were respectively entitled a York waggon, a Prince Albert waggon, a slide-top buggy,

and a trotting sulkey. The chief characteristic of all these was their extreme lightness of weight, when compared with their size. They were richly finished within and without, and beautifully carved; the upholstery being done in exceedingly good taste, with constant regard to the comfort of the rider, and exhibiting very considerable artistic merit in design. The wheels were made from carefully-chosen materials, the joints exactly fitted, the felloes (two in number, instead of the usual five or six, for greater strength), confined by a steel insertion and bolts, and the axletrees exceedingly neat and strong. It is claimed for these axletrees (an American invention), that, in loss of friction, strength, freedom from all noise in motion, and cleanliness, they are superior to any in England. Several of these lighter carriages are now in use in this country, and give great satisfaction; and several more of a similar manufacture have been recently ordered from New York. Indeed, it is not difficult to understand why they should become favourites out of London; nor how reluctantly a lover of quick driving would return to the heavier vehicles of city manufacture. There were several rich sets of harness which deserved notice, in particular that which was exhibited by Messrs. Lacy and Phillips. It was made from leather of the finest quality, and with perfect thoroughness of work. The mountings were of solid silver, with appropriate and graceful designs. In this, as in all the other harness shown, there was remarkable lightness and airiness, and an obvious endeavour to do away with all superabundant weight.

The great use of oil in the United States has necessarily led to many improvements in lamps, as was evident in those exhibited from the manufactory of Messrs. Cornelius and Co., in Philadelphia, especially in those upon the solar principle, as it is called, where increased draught is made to bear upon the combustion, which are unknown among us. Unpretending as these lamps appeared, it was stated that they would give an amount of light greater, by one-half, than any others in use. The chandeliers that hung

above them were graceful, and of extreme purity of glass, and beautifully cast. The branches, formed by arabesque scrolls, profusely ornamented with birds and flowers, delicately sculptured, or in bold relief, with centres of richly-cut glass, claimed universal approval for their elegance and lightness of design. This manufacture is among the latest introduced in the United States, it being scarcely fifteen years since every chandelier, girandole, mantel-lamp, and candelabra used in that country was imported from Europe; and it argued considerable enterprise and perseverance on the part of the manufacturers, that they attained so much excellence as to be willing to vie in the Exhibition with the oldest and most celebrated houses in the world. On the south side of their portion of the building, the contributors from the States exhibited, under the general classification of raw material, many very excellent specimens. There were among these a large variety of articles, such as Indian corn, ground, hulled, and in the ear; rye, oats, barley, wheat, rice, cotton, tobacco, minerals, chemicals, woods, brooms, beef, pork, lard, hams, and almost everything else identified with the productions of that country. Next in order were to be seen daguerreotypes, paintings, herbaria, and prints, with some samples of stained glass suspended from the galleries, and cottons, carpetings, wrought quilts, calicoes, and needlework, tastefully displayed around. Considering the distance from which these had to be conveyed, not only across 3,000 miles of ocean, but often from little short of that distance inland; and considering, too, that it is not in her manufactures that America makes her chief impression upon the world, we regard this portion of her exhibition with great interest. In pianofortes there was a show highly creditable to the manufacture of musical instruments in the United States. Pierson exhibited a seven-octave grand pianoforte; Chickering a semi-grand, and other instruments of less pretension but of much merit. There were two from the manufactory of Conrad Meyer, of Philadelphia, in neat and very unpretending

cases, combining all the best qualities of the highest rank of pianos. In breadth, freedom, and evenness of tone, in promptness and elasticity of action, and in a combination of everything that is rich and sweet in this description of instrument, he claims to be unsurpassed.

Among cordage, boats, oars, and models of favourite ships, were exhibited two ship-ventilators, by Frederick Emerson, of Boston. These are intended to supersede the ordinary wind-sail now in use for sending pure air into the recesses of ships. The inventor has given much attention to the subject of ventilation, and his success has been honoured by several gold medals in the United States. How far this application of his invention may be superior to the methods now in use for the same purpose is uncertain. In the minds of sailors there is always an objection to fixtures above deck, which would be likely to impede their general introduction.

Together with daguerreotypes, before alluded to, there were exhibited camera obscuras by C. C. Harrison, of New York, the results of which, in the pictures that hung above them, were exceedingly favourable. There were shawls from the Bay State mills, of beautiful colour and a high perfection of manufacture; white cotton goods, which, in bleaching, finishing, and putting up, appeared equal to Manchester products; some very beautiful flannels, single-milled doeskins and wool-black cassimeres of thorough fabric; tweeds, well mixed and of good colours; a salamander safe, well made; Newell's improved bank lock, ingenious and well constructed; a patent paying-machine for pitching the seams of vessels, the box being provided with a ventricle wheel, which receives the hot melted material, and applies it neatly, economically, and directly to the seam to be covered; an air-exhausted coffin, with glazed aperture at top, a most whimsical idea, but whether for the benefit of the defunct to look out, or the survivors to look in, we were at a loss to determine. Next came a host of "notable things." Car wheels for railroads, wood and cork legs, clocks, watches, dentists' tools and works, India-

rubber goods of various forms, mathematical and solar instruments, a self-determining variation compass, trunks, boots and shoes, hats, specimens of printing and binding, together with pistols, rifles, and other weapons of offence and defence. Of these rifles, manufactured by Robbins and Lawrence, it is but just to say that they are among the best, if not *the* best, of any rifles manufactured in the world, the Americans claiming to excel in this species of manufacture. They are made from the best selected Copake cold-blast forge iron, and are of an unpretending style, but remarkable for a plain, substantial, and perfect finish; they are strong, simple, and thorough in their workmanship, and eminently adapted for real service.

Two bell telegraphs, exhibited in the central avenue, very deservedly attracted much attention. The bell telegraph, otherwise called an "annunciator," is an invention made to supersede the awkward array of bells in houses and hotels. It is an extremely neat and beautiful article, and indicates whence the bell was rung, by uncovering a number corresponding to the number of the room; and this, too, for any length of time afterwards, until, by the touch of a spring, the number is re-covered. In the large hotels in the United States, and in many private residences, it is much used.

In the moving machinery department, among other objects of interest from the United States, was a machine exhibited by Mr. Charles Morey, called a stone dressing machine. A machine for dressing stone by power has long been regarded as a great desideratum, and has been the object of many expensive, though unsuccessful experiments. One great difficulty has been found in making the cutting tools of a quality to stand the action of stone, unless at such cost as to render their use unprofitable. This difficulty is overcome by the present invention, which consists in the employment of chilled cast-iron burrs, or rolling cutters. Iron, as is now known, may, by a peculiar process of chilling in casting, be converted to a diamond hardness, that perfectly fits it for reducing,

with great facility and economy, the surface of stone. The burrs made in this way retain a sufficient degree of sharpness for a long time, and can be maintained at a small cost, being wholly formed and finished in casting. In dressing circular forms, the stones are made to revolve, when the burrs, which are mounted in sliding rests, are brought into action. For straight surfaces, however, the stones are laid upon a transverse bed, and the cutters, mounted upon a revolving cylinder, are placed above them. The burrs or cutters are so arranged as to turn freely on their axis when brought in contact with the stone, and as they roll over it, they crush it away in the form of scales and dust. By varying the shape and arrangement of the burrs, ornamental surfaces may be produced.

Among the agricultural implements exhibited, which claimed the attention of agriculturists particularly, were reaping machines, ploughs, cultivators, fan mills, and smut machines. The American reapers are worked by a single span of horses abreast, with a driver and a man to rake off the grain as it is cut down by moveable knives. On land free from obstructions, these reapers will cut from twelve to twenty acres of wheat in a day, depending somewhat upon the speed of the horses and the state of the grain.

In taking our leave, for the present, of our transatlantic neighbours, we have the pleasure to inform our readers, that they have so far profited by the example we have set to them, as well as to other nations, as to contemplate an Exhibition of Industry at New York, which, indeed, it is publicly announced will take place in the ensuing year. A company, it appears, has been formed in America which is represented in this country by M. Charles Buschek, Austrian commissioner for the Exhibition of 1851, and Mr. Edward Riddle, commissioner for the United States, to whom the whole management of the design has been confided. A large building is about to be erected, which, when completed, will be considered as a bonded warehouse.

The contributions from England are to be conveyed in first-class vessels, free of expense, and if they remain unsold, will be returned to the exhibitors without cost. This arrangement cannot but be considered as extremely liberal. There can be no doubt of the success of such an enterprise, if carried out by a body of trustworthy persons. We hear of several English firms as likely to accept the friendly invitation thus held out to them.

CHAPTER XII.

WOOD CARVING—ROYAL TROPHY—PRINCE OF WALES'S COT—
GROUP OF FLOWERS—THE KENILWORTH BUFFET—BUFFET
BY FOURDINOIS—PANEL BY LIENARD—HOLLAND'S BOOK-
CASE—PALACE OF TARA—SWISS CARVING—ELIZABETHAN
AGE—AUSTRIAN CARVING, ETC., ETC.

AMONGST the decorative arts, wood carving has a distinct and legitimate position, and confined within due limits is always effective. Still its province is restricted, or ought to be, to the ornamentation of material when applied to a useful purpose; it can never assume the dignity of art *per se*. To usurp the place of sculpture, it has hitherto been, and will always continue to be, utterly incompetent, inasmuch as the material upon which it employs its skill, is altogether, both in colour and texture, inferior to marble, and utterly inappropriate to represent the human figure or the human countenance. In corroboration of our assertion, we would recal to the recollection of our readers the extremely objectionable representation of the Crucifixion in the Fine Art Court, the head of Her Majesty, or the human lineaments in any work of wood carving in the Exhibition, and compare their relative truthfulness of effect as to contour and colour with that of other objects, such as flowers, foliage, and fancy devices, and they will at once admit the principle for which we now contend.

There were several very beautiful specimens of this class of subjects by Rogers and Wallis, closely approximating in elegance and delicacy of finish to the celebrated productions of Grinlin Gibbon, that prince of carvers, whose works serve to decorate so many of our old ancestral halls and country residences. The first-mentioned of these artists, Rogers, besides a number of charming devices, exhibited two larger subjects, on which he appeared to have lavished all his resources,—a royal trophy, carved in lime-tree, representing the crown as the chief power, the source of all titles and dignities—the patron and promoter of the arts, sciences, &c., in illustration of which an elaborate group which occupied the centre, displayed all the insignia of rank, and every means and appliance of science and art. In the lower part were medallion portraits of royal personages. The whole was encircled with a border composed of groups of game, fruit, flowers, fish, and shells. A trophy emblematical of Folly was also worthy of high praise. The carved boxwood cradle, moreover, by the same artist, exhibited by her majesty, must not be passed unnoticed, although we by no means participate in the wild admiration which it excited amongst the numberless mothers and daughters of England, who gazed enviously at it. The shape itself was not elegant, being heavy, and more like a sarcophagus than a cradle; and the decoration, though doubtless appropriate as “symbolising the union of the royal house of England with that of Saxe-Coburg and Gotha,” was neither picturesque nor interesting in a general point of view, whilst the execution, though exquisitely neat, was perhaps a *tant soit peu* tame. Wallis, likewise, exhibited some productions of surpassing merit in the same style. One, a group of flowers, &c., emblematical of Spring, elicited general admiration; it was carved out of a solid piece of lime-tree, five feet high by two-and-a-half wide, and projecting thirteen inches. Spring was allegorically represented by the grape-buds and apple-blossoms, of which there were no less than 1,060 buds, and 47 varieties.

A blue-cap titmouse was picking insects out of an apple-blossom; another was taking food to its young, which were partially concealed in their nest, and here and there caterpillars were dragging their slow length along. A shepherd's crook and lamb's head were added, symbolical of the season. The whole of this work was copied from nature, and executed expressly for the Great Exhibition.

The most magnificent object, however, in this department of art, was unquestionably "The Kenilworth Buffet," by Cooke, of Warwick, and which we shall proceed to describe in an abridged account from that given by the makers themselves. The wood from which this buffet was made, we are informed, was obtained from a colossal oak-tree, which grew near Kenilworth Castle, and of which we believe a view was given in *Strutt's Deliciae Sylvarum*, published some years ago. The tree measured ten feet in diameter, and contained about 600 cubic feet of timber, and was cut down in 1842, and afterwards purchased by the exhibitors. The subject of the design was the Kenilworth Pageant of 1575, in honour of Queen Elizabeth's visit to the Earl of Leicester, described by Laneham and Gasecoigne, two attendants on the Queen in this "royal progress," and vividly reproduced by Sir Walter Scott. The design of the centre panel, carved out of one solid block of oak, represented Queen Elizabeth entering Kenilworth Castle in all the pomp usually displayed on these occasions. The cavalcade was seen crossing the tilt-yard, and approaching the base court of the building by Mortimer's tower. Leicester was bare-headed, and on foot, leading the horse upon which his august mistress was seated, magnificently arrayed. The Queen, then in her forty-second year, wore her crown, and had around her neck the enormous ruff in which she is always represented. Two pages and a long train of attendants followed the Queen and her host, composed of ladies, statesmen, knights, and warriors—some on foot, others on horseback. In the distance were soldiers and

a mixed multitude of people. A portion of the castle was seen in the back-ground. At one end was Mortimer's tower, through which the cavalcade was about to pass; the remains of this tower are still in existence, and considerably heighten the romantic beauty of the Kenilworth ruins. At the opposite end of the panel, the Earl of Essex, Leicester's rival in the favour of Queen Elizabeth, was conspicuously seen, mounted on a charger. On the table underneath the centre panel was displayed the Tudor rose, and surmounted by the royal crown, with the famous motto of Elizabeth, *semper eadem*, on a ribbon. On the spandrels, supported by water flowers and rock-work pendentives, were marine subjects taken from the "Pageant," namely, a triton on the mermaid, and Arion on the dolphin, connected with Mike Lambourne's mishap, in the novel of *Kenilworth*. The panel on the right or dexter side of the buffet, recalled the scene in the same work, where Elizabeth meets Amy Robsart in the grotto, in the grounds of the castle. The subject of the left panel of the buffet represented the interview of Queen Elizabeth and Leicester, after the exposure of the deceit practised upon her by the latter, and his marriage with Amy Robsart. Leicester was shown in a kneeling position, with one hand on his breast, and the other extended towards Elizabeth, as if appealing to her sensibility. The four statuettes at the corners were emblematical of the reign of Elizabeth. At the extreme corner of the right was Sir Philip Sydney, the nephew of the Earl of Leicester, whose character combined all the qualities of a great poet, warrior, and statesman. He died in 1586. The shape of Sir Philip's sword (which is still preserved at Penshurst) was singular, the handle being about sixteen inches long. On the opposite side of the same pedestal might be recognised Sir Walter Raleigh, who attained eminence in almost every branch of science and literature. He was arrayed in a courtier's dress, and the figure represented him in a thoughtful attitude, with a pen and scroll in his hand. Raleigh was beheaded on

a charge of high treason, in 1618. On the left pedestal, at the inner side of the buffet, was a figure of Shakspere, who was shown in a reflective mood. The last figure was that of Sir Francis Drake, the first Englishman who circumnavigated the globe. An anchor was appropriately introduced, emblematic of his naval career; and the costume chosen was that of a court dress. The ragged staff mouldings of the Kenilworth buffet were imitations of the best examples in the Beauchamp Chapel, Warwick, where the Earl of Leicester was interred. The supporters to the projecting shelves also represented the proud crest of this splendid noble, the bear and ragged staff, borne by the earls of Warwick from the most remote times. The small panels of the buffet, behind the Leicester cognizance, contained monograms of the date of Queen Elizabeth's visit to Kenilworth Castle, and the eventful year 1851, with the cipher of the reigning monarch, designed to record the era of the Great Exhibition of all Nations. Around the door-panels of the Kenilworth buffet were copies of architectural details still seen on the gate-house. The upper part, above the shelf of each pedestal of the buffet, displayed the monogram of the Earl of Leicester, encircled by the insignia of the order of the Garter, and surmounted by his coronet. The decorations on each side were specimens of Elizabethan ornaments, designed by the proprietors. An important feature in the production of this work was the introduction, by Mr. Walter Cooper, of *pointing*, the process adopted by sculptors in stone and marble, and by which greater accuracy is secured.

Next in importance to the magnificent piece of workmanship we have just described, and equal to it in beauty of execution and finish, was the elaborate buffet by M. Fourdinois, of Paris; and it is in such peaceful rivalry and friendly competition alone, that we wish to see the two nations opposed to each other; a contest in which the advantages of victory,—for

“Peace hath her victories no less than war,”

are counterbalanced by no misery or deprivation on the part of the vanquished ; and it is to such a state of beneficial intercourse between nations, hitherto opposed to each other in hostile array, that such an exhibition as we have just witnessed must eminently tend to lead. Let us, however, return from this digression, and describe the "stately sideboard" of M. Fourdinois. The design of the French artist very judiciously aimed at rendering the ornamentation of his work entirely subservient to its intended use. Consequently, in order to express the general temperament of the banquet, four female figures, representing the four quarters of the globe, were bearing in their hands every delicate variety of food, the produce of their several climes, whilst around them were heaped in rich profusion—

"Meats of noblest sort
And savour; beasts of chase, or fowl, or game,
* * * * all fish from sea or shore,
Freshlet or purling brook, or shell or fin,
And exquisitest name, for which was drained
Pontus, and Lucrine bay, and Afric coast,
With fruits and flowers from Almathea's horn."

At either end were figures representative of hunting and fishing. Above was a female figure emblematic of plenty, supported by two charming groups illustrative of the corn-field and the vineyard. Even the chained dogs, which have been censured by some, placed as supporters at the lower part of the sideboard, we consider as appropriate—the chase was over, the game ready for culinary operations, and for a time, at least, the faithful animals were at rest beneath the trophies of their prowess. The centre of the sideboard was occupied by a painting in gay colours, representing a combination of various fruits and flowers, surmounted by a large American aloe. We cannot too highly commend the great fidelity with which the various objects in this elaborate performance were copied from nature, the graceful manner in which each part was made to blend with its neighbour, the taste,

skill, and patience of the workman, the care bestowed upon the minutest details, or the originality of conception and beauty of finish in the whole work,—the *tout ensemble* was worthy of the country which produced it, and the occasion which called for its exhibition.

Another work of Parisian manufacture, by M. Lienard, was also deserving of notice—a pair of large panels of exquisite workmanship, one of which, illustrative of the sports of the field, we shall forthwith describe. The first compartment represented a group of foxes in search of prey, the last a family of partridges in a corn-field, while in the centre, in all the serenity of safety, reposed a trio of deer, the noble old buck looking out upon the scene in the very luxury of idleness. But the choicest bits of carving were in the animals, birds, and foliage which surrounded the frame, emblems of the noble sport.

Of a totally different character from the preceding, was the massive book-case exhibited by Messrs. Holland, in the style of the Renaissance, with natural forms finely introduced. The design was furnished by Mr. Macquoid, architect. Regarded artistically, it might have been considered rather too architectural in its style, but it was certainly a splendid piece of workmanship, and well suited for the library of a great castle or baronial mansion.

We will now make mention of a contribution from "the Emerald Isle," in the form of a music temple, carved in bog-yew, by Arthur Jones, of Dublin. As in all periods of their history, the Irish have been passionately fond of music, the decorative piece of furniture embodying this characteristic, was certain to acquire importance and prominence; and, therefore, the ancient Palace of Tara was selected as the proper theatre in which to display this subject, its halls having been celebrated by the ancient Irish bards, as the frequent scenes of music and festivity. A statuette of Ollamh Fouldla, the founder of the Irish monarchy, and also of the Palace of Tara, naturally surmounted the temple. He was represented

in his capacity of monarch and lawgiver, delivering the laws to the Irish nation, holding forth the beechen boards, on which were inscribed passages from the Brehon laws, engraved in the ancient Irish character :—

“ Seven things bear witness to a king’s improper conduct:

“ An unlawful opposition in the senate.

“ An overthrow of the law.

“ An overthrow in battle.

“ A dearth.

“ Barrenness in cows.

“ Blight of fruit.

“ Blight of seed in the ground.

“ These are the seven candles lighted to expose the misgovernment of a king.”

He was seated on the Lia Fail, or enchanted stone, said to be deposited in Westminster Abbey ; he sat in the centre of a platform, representing all Ireland mapped out under him. The panel in front represented, in relief, the opening of the triennial convention at Tara, in the reign of Cormac “ Ufalda,” or “ Long Beard,” in the early part of the third century, anterior to the introduction of Christianity into the island. Cormac sat in the centre of the hall, surrounded by ten principal officers of state, who always accompanied the monarch on state occasions. The opposite panel represented the harpers in Tara Hall performing before the monarch and his queen ; a canopy formed by the fossil antlers and skull of the giant deer, supported the drapery, an opening in which discovered the undulating hills of Tara. Four statues at the corners personified vocal music, warlike, pastoral, dramatic, and devotional—or, in other words, the camp, the field, the stage, and the sanctuary. The whole subject formed a sort of chronological series, commencing 700 years B.C., the date of the foundation of the Irish monarchy—touching the flourishing state of the kingdom under Cormac—passing through the chivalrous age of the Crusaders—and ending with the present agricultural age of Ireland.

The Swiss department contained several specimens of

wood carving, in decorative furniture and otherwise, which were interesting for the great amount of executive skill displayed upon them, and for the truthful homeliness of the subjects represented in them. They were, indeed, for the most part, sculptured bucolics, exhibiting the pastoral life of happy Switzerland, in all its various phases; whilst a few illustrated other points of nationality, as the costumes of the twenty-two cantons, still kept remarkably distinct amongst the rural population; or some spot dear in the memories of Swiss men, as the chapel of William Tell, at Altdorf. There was something very charming in the simple devotedness to a beloved nationality thus evidenced by a brave, industrious, and primitive people, in their contributions to the world's great and glittering fair. The escritoire, by Wettli, of Berne, in white wood, and intended for the use of a lady, was well deserving attention; it was so contrived that it could be used either in a sitting or a standing posture. The embellishments, as already stated, comprehended various passages in the industry, field sports, and amusements of Alpine life. The general style of this piece of furniture, considered as such, was light, and by no means inelegant. The small table, by Schild, of Berne, was also extremely pretty, and both were well suited for a lady's boudoir in the retirement of a rural hour.

To return, however, to our native productions: we were reminded by the "Kestral Hawk" of Mr. Batsford, and the Elizabethan contributions by the Duchess of Sutherland, of that Augustan age of England, when poetry and the fine arts had arrived at their zenith—when carving in wood, a branch of the latter, profusely adorned the houses of the wealthy and the noble. The finer specimens of this class of art are scarce, and in great demand among collectors, dealers, and antiquarians. In chapels and cathedrals, what elaborate specimens are to be found of this somewhat neglected art!—witness the noble structures of Westminster Abbey, Lincoln, Durham, and York. Nearer our own times, too, we have had some rare

examples of excellence, from the chisel of Grinlin Gibbon, already mentioned by us, and of whom Walpole justly observes, "that there is no instance of a man before Gibbon, who gave to wood the loose and airy lightness of flowers, and chained together the various productions of the elements, with a free disorder natural to each species." And so delicate was the workmanship of Gibbon, according to the same authority, that a carved pot of flowers in a room shook, as though they were natural, by the mere motion of the coaches in the street. The Chapel at Windsor, and the Choir of St. Paul's, contain some foliage by Gibbon, executed in the most artistic manner. His heads of cherubs possess a sweetness of expression and an angelic loveliness which, as long as they exist, will render them the admiration of all lovers of ideal beauty; and his picture-frames, where dead game, flowers, and foliage, almost deceive the eye into a belief of their reality, are equally marvels of the art.

Many other specimens of the taste and skill of our English carvers were to be found in the various recesses of the Crystal Palace. In the Mediaeval Court stood a massive oak sideboard, the production of Mr. Crace, of Wigmore-street, elaborately and richly carved, and intended for the new dining-hall at Alton Towers, the seat of the Earl of Shrewsbury. A sideboard by Snell and Co. also merited attention; the design of the sculpture was given by Baron Marocheti, the workmanship of which was equal to the best examples in the Exhibition, and elicited universal approbation. An elegant commode or cabinet of walnut wood, was exhibited by Hanson and Sons, highly ornamented, for china, bronzes, &c., with oval carved frame for a mirror, representing a variety of British birds arranged in a pleasing manner around the glass. The carved work on the lower part of the commode represented stags in a recumbent posture, and the pillars were ornamented with well executed heads of boars and deer. Two elaborately-carved brackets for flower-stands, served to complete this elegant and useful piece of furniture.

We will now, however, take a look at the contributions in this department of art as supplied by Austria, the most conspicuous among which was the huge BEDSTEAD, with its pillars, its niches, its screens, its groups of angels, champions, sprites, and saints—cathedral-like in its design and decoration. Architectural in character, it appeared like a vast temple dedicated to sleep; so grand in conception, so massive in proportion, so deeply rich in carved glories, so evident an invocation of the artist, and so resolute an abnegation of the mere upholsterer, it was a real triumph of the artificer, who must have been “sleepless himself to make his patrons sleep.”

Next in magnificence was the GOTHIc BOOKCASE, sent over as a present from the Emperor of Austria to her Majesty. The superbly-bound books which ornamented some of the shelves were also the gift of his Imperial Majesty. The material was oak. The design, which was Gothic, was by Bernardo de Bernardis, an architect of eminence, and J. Kraner, both of Vienna. It was rather too architectural in its arrangement, and the introduction of the statuettes in all directions, was not to be approved on the score of taste or propriety. The executive department was very creditably carried out; but at the time it was exhibited the joining business had not been completed, and we understand several workmen belonging to Messrs. Leistler's establishment are now engaged upon it, and will be so for some months, at Buckingham Palace.

A Prie Dieu, also by Leistler, was worthy of notice; Gothic in its structure, like the bookcase, and very richly carved. In the central panel was a painting of Christ bearing the cross; on either side were angels holding tablets, on which were inscribed the date, “Anno 1851.”

A set of tables, too, in another part, awakened the especial admiration of the lovers of the gastronomic art, which, in their hospitable breadth and expanse, spoke volumes in favour of the geniality of their designs. The wood of these was extremely beautiful; the guests had only to look beyond their glasses to see their joyous coun-

tenances correctly mirrored, while the substantial legs and supports, in buttresswise, entirely banished the idea that the tables they supported could ever *groan* under whatever weight of good cheer might be placed upon them.

From Belgium the most important contribution in this style of art was in the shape of a GOTHIC CHAIR, an elegant and elaborate piece of aristocratic furniture executed in carved oak, entirely gilt, and cushioned with the finest crimson velvet. The ornamental portion of the chair gave it a very light and chaste appearance. The seat was supported by figures of griffins in a sitting posture, and the elbows and tracery work beneath the seat were in admirable keeping with its other decorations. The chair was modelled after the decorated Gothic style of architecture, and formed a portion of a finely-finished set of furniture in dark wood, consisting of a Gothic rosewood bookcase, bedstead, and étagère, and oak and rosewood tables and chairs, which were well worth the attention of the visitor. The whole had been designed by a very clever artist, A. F. Roule, of Antwerp, and numbered 419 in the Belgium department of the Great Exhibition.

In concluding our present remarks on carved work, we must not omit to mention that Tuscany, that old field of classic art, exhibited several specimens of exquisite beauty by Barbetti and others. Greece also, amongst her sixty-one contributions, sent two works in the Byzantine style, executed by the Rev. Triandaphylos of Athens, namely, a carved cross, and a carved picture of the "Annunciation." These works were remarkable as specimens of a style of art now almost extinct, being a remnant of the Byzantine period, and which still lingers in some of the convents of Greece, and particularly at Mount Athos. The carving, which was done with graving instruments, was very minute, in slight relief, upon the plane of the wood—a boxwood which is abundant in Greece, and appears to be of a very fine grain. The crucifix, which did not measure more than a foot in its largest dimensions, was covered on both sides with scriptural subjects, fourteen on each side,

so that each subject occupied only from an inch to a couple of inches of the surface. In the carving representing the "Annunciation," the figures were larger, and the form oval, the band being surrounded with twenty-five heads of saints. The government of Greece has of late years done a good deal to promote this style of illustration, in a School of Arts established at the cathedral at Athens.

CHAPTER XIII.

DISCOVERY OF GLASS—GLASS BLOWING—CRYSTAL FOUNTAIN—
CANDELABRA—THE GLASS KOH-I-NOOR—SUPERB CHANDELIER—ETRUSCAN VASES—DIOPTRIC APPARATUS—BOHEMIAN
GLASS—ENGRAVING ON GLASS—PRESSED GLASS, ETC.

THE manufacture of glass is one of great and daily increasing importance in this country, the application of this material to many uses heretofore unthought of being daily on the increase; thanks to the liberal policy which a few years ago abolished those fiscal burthens which had operated as a bar to enterprise and progress. The subject is one of peculiar interest in connexion with the Great Exhibition of Industry of 1851, as but for the enfranchisement of the glass manufacturer, the building in which that unrivalled display was held could never have been constructed.

The time at which glass was invented is very uncertain. The popular opinion upon this subject refers the discovery to accident. It is said (Plin., *Nat. Hist.*, lib. xxxvi., c. 26), "that some mariners, who had a cargo of *nitrum* (salt, or, as some have supposed, soda) on board, having landed on the banks of the river Belus, a small stream at the base of Mount Carmel in Palestine, and finding no stones to rest their pots on, placed under them some masses of *nitrum*, which, being fused by the heat with the sand of the river,

produced a liquid and transparent stream : such was the origin of glass." The ancient Egyptians were certainly acquainted with the art of glass-making. This subject is very fully discussed in a memoir by M. Boudet, in the "*Description de l'Egypte*," vol. ix., Antiq. Mémoires. The earthenware beads found in some mummies have an external coat of glass, coloured with a metallic oxide ; and among the ruins of Thebes pieces of blue glass have been discovered. The manufacture of glass was long carried on at Alexandria, from which city the Romans were supplied with that material ; but before the time of Pliny, the manufacture had been introduced into Italy, France, and Spain (xxxvi., c. 26). Glass utensils have been found among the ruins of Herculaneum.

The application of glass to the glazing of windows is of comparatively modern introduction, at least in northern and western Europe. In 674 artists were brought to England from abroad to glaze the church windows at Wermouth, in Durham ; even in the year 1567 this mode of excluding cold from dwellings was confined to large establishments, and by no means universal even in them. An entry then made in the minutes of a survey of Alnwick Castle, the residence of the Duke of Northumberland, informs us that the glass casements were taken down during the absence of the family, to preserve them from accident. A century after that time the use of window-glass was so small in Scotland, that only the upper rooms in the royal palaces were furnished with it, the lower part having wooden shutters to admit or exclude the air.

The earliest manufacture of flint-glass in England was begun in 1557, and the progress made in perfecting it was so slow, that it was not until near the close of the seventeenth century that this country was independent of foreigners for the supply of the common article of drinking-glasses. In 1673 some plate-glass was made at Lambeth, in works supported by the Duke of Buckingham, but which were soon abandoned. It was exactly one century later that the first establishment of magnitude for the

production of plate-glass was formed in this country, under the title of "The Governor and Company of British Cast Plate-Glass Manufacturers." The members of this company subscribed an ample capital, and works upon a large scale were erected at Ravenhead, near Prescot, in Lancashire, which have been in constant and successful operation from that time to the present day.

At an early period of its history in this country the glass manufacture became an object of taxation, and duties were imposed by the 6 and 7 William and Mary, which acted so injuriously, that in the second year after the act was passed, one-half of the duty was taken off, and in the following year the whole was repealed. In 1746, when the manufacture had taken firmer root, an excise duty was again imposed, at the rate of one penny per pound on the materials used for making crown, plate, and flint-glass, and of one farthing per pound on those used for making bottles. In 1778 these rates were increased 50 per cent. upon crown and bottle-glass, and were doubled on flint and plate-glass. These rates were further advanced from time to time, in common with the duties upon most other objects of taxation, and in 1806 stood as follows:—On plate and flint-glass, 49s. per cwt.; on crown and German sheet-glass, 36s. 9d. per cwt.; on broad glass, 12s. 3d., and on common bottle-glass, 4s. 1d. per cwt. In 1813 those rates were doubled, and, with the exception of a modification in 1819 in favour of plate-glass, then reduced to £3 per cwt., were continued at that high rate until 1825. In that year a change was made in the mode of taking the duty on flint-glass, by charging it on the weight of the fluxed materials, instead of on the articles when made, a regulation which did not affect the rate of charge. In 1830, the rate on bottles was reduced from 8s. 2d. to 7s. per cwt. The only further alteration hitherto made in these duties occurred in 1835, when, in consequence of the recommendation contained in the thirteenth report of the Commissioners of Excise Inquiry, the rate upon flint-glass was reduced two-thirds, leaving it at 2d. per pound,

a measure which was rendered necessary by the encouragement given under the high duty to the illicit manufacture, which was carried on to such an extent as to oblige several regular manufacturers to relinquish the prosecution of their business.—*Penny Cyclopædia*.

Since the alteration in the tariff, the manufacture of glass in this country has received an immense extension, and in several branches of the art we have outstripped the foreigner, who a few years since maintained against us a flourishing competition. In the preparation of the raw material, with one or two exceptions, we occupy the highest place, and have acquired this advantage by our large capital, by our improved chemical knowledge, and by the indomitable energy of our character. Even the foreigner acknowledges our superiority in these respects, and in taste and colouring he also admits that we have made considerable progress.

“For a long time,” says M. Stephane Flachet, “England has excelled us in the manufacture of glass, especially crystal glass. The precise cause is not known; it does not appear in the mode of fusing the materials; more probably it may be attributed to the purity of the lead which they use. We know how poor France is in this important respect, having imported, for several years past, from fifteen to sixteen millions of kilogrammes of that metal, principally from Spain. * * * * The French glass is inferior to the English in point of colour, and changes much sooner when exposed to the air. Our manufacturers declare that this difference does not arise from an inferiority of workmanship, but from the limited means which we possess of purchasing the article, and which in a great measure may be attributed to the *minute division of the soil*. In order to reduce the price of glass to the condition of the purchaser, our manufacturers have recourse to an extra infusion of alkali, which, being slowly absorbed by the atmosphere, causes the glass to lose its transparency.”

Glass may be regarded, generally speaking, as an

admixture of three kinds of ingredients—silica, alkali, and a metallic oxide. The silica is the vitrifiable ingredient, the alkali is the flux, and the metallic oxide, besides acting as a flux, imparts certain qualities by which one kind of glass is distinguishable from another. If silica be exposed to the strongest heat it will resist fusion ; but if it be mixed with an alkali, such as potash or soda, and the mixture be then submitted to the same temperature, a combination will ensue which takes the form of a liquid, and when cooled becomes transparent. The quality of glass mainly depends on the proportions in which the silicious matter and the alkali are combined, on the temperature to which they are exposed, and on the skill with which the entire process is performed. When a perfect combination of the materials is not secured, the glass is covered with dark spots or particles, and other inequalities, which are called *striæ*. There are three kinds of glass in ordinary use—crown-glass, plate-glass, and flint-glass. The silicious sand, which forms the base of the manufacture of each, is principally derived from Alum Bay, in the Isle of Wight ; from Lynn, in Norfolk ; and from Aylesbury, in Buckinghamshire. The materials for flint-glass are nearly as follows :—One part of alkali, two parts of oxide of lead, three of sea-sand, and a small portion of the oxides of manganese and arsenic. The oxide of lead is employed as a powerful flux ; it also imparts a great lustre to the metal, and causes it to be more ductile when in a semi-fluid state. The manganese renders the glass perfectly colourless. When these ingredients are mixed it is called the *batch*, and the mixture is generally of a salmon-coloured hue, the red tinge being given by the oxide of lead.

“ Who,” says Dr. Johnson, “ when he first saw the sand or ashes by a casual intensioness of heat melted into a metalline form, rugged with excrescences and clouded with impurities, would have imagined that in this shapeless lump lay concealed so many conveniences of life as would, in time, constitute a great part of the happiness of the

world? Yet by some such fortuitous liquefaction was mankind taught to procure a body at once in a high degree solid and transparent; which might admit the light of the sun, and exclude the violence of the wind; which might extend the sight of the philosopher to new ranges of existence, and charm him at one time with the unbounded extent of material creation, and at another with the endless subordination of animal life; and, what is of yet more importance, might supply the decays of nature, and succour old age with subsidiary sight. Thus was the first artificer in glass employed, though without his knowledge or expectation. He was facilitating and prolonging the enjoyment of light, enlarging the avenues of science, and conferring the highest and most lasting pleasures: he was enabling the student to contemplate nature, and the beauty to behold herself."

Owing to the injurious operation of the excise duty upon glass, as already stated—since happily abolished by Sir Robert Peel—the English manufacture was long inferior to the French for plate-glass, and to the Bohemians for coloured and ornamental glass. Since the exciseman was released from his attendance at the glasshouse, the English have been gradually improving themselves in the manufacture of every variety of this beautiful article; adopting processes new to England, but which had been long in use in other countries, where the manufacturer was not impeded by the operation of impolitic laws. Among these new processes, that of the manufacture of plate-glass is one of the most interesting. When the Messrs. Chance, of Spon-lane, near Birmingham, took the contract for the supply of the large quantity required for the Crystal Palace, amounting to nearly 400 tons, they found it necessary to import a few foreign workmen, in consequence of a scarcity of English hands sufficiently skilled and experienced to complete the order within the time specified. The process of production is very simple and beautiful, but requires a steady and practised hand. When the requisite weight of "metal" is taken from the

furnace by the blower, it is blown into a spherical form in the ordinary manner. It is then, after having been reheated in the furnace, swung above the head and below the feet of the workman, until it assumes the form of a cylinder. The workman stands upon a stage opposite the mouth of the furnace, with a pit or well beneath his feet, six or seven feet in depth. He swings and balances the molten metal—firmly affixed to a knob of glass at the end of a long iron bar, or blowing-tube—first above and then beneath him, until it gradually expands to the size which the original quantity of metal was estimated to produce. The slightest miscalculation of his power of swinging it, or deviation from the proper course, might dash the hot glass either against the side or end of the pit or well, or against the wall of the furnace—or, worse than all, against the body of a fellow-workman or of a spectator. No such accidents ever happen, though the stranger unaccustomed to the sight is for a while in momentary dread of some such result. When swung to the proper length, the cylinder is about four feet long, and twelve inches in diameter. The next operations are to convert it into a tube, by disconnecting it from the blowing-iron, and removing the bag-like extremity. These processes are performed by boys, with strings of red-hot glass, which easily cut through the yielding metal. The boys then take the tubes under their arms, and remove them to another part of the building, where they stand on end, like chimney-pots, to await the operation which shall convert them into flat sheets of glass. This is also very simple. The tube is cut down the middle, and in this state placed in the "flattening-kiln," where the moderate application of heat, aided by a gentle touch from the attendant workman, brings it flat upon a slab or stone. It is then gently rubbed, or smoothed, with a wooden implement, and passed into a cooler part of the kiln, where it soon hardens. It is then tilted on edge, and the manufacture is complete. It is afterwards cut in the ordinary way to the required size.

We offer no apology for the length to which we have extended the foregoing remarks. The subject to which they introduce us is unquestionably the most important of any connected with the history of the Great Exhibition, not only as respects the building itself, whose fairy structure owed its chief attraction to the surprising adaptation of so glittering and fragile a material to the combined purpose of lightness and solidity, but also in the vast variety of articles it contributed, useful alike to science, to the fine arts, and to domestic comfort and adornment. Indeed, it is quite certain that however we may be inclined to yield the palm to the foreigner for beauty of design and delicacy of workmanship in other branches of ornamental manufacture, the British workman need fear no competitor in the various applications of glass, that most beautiful of chemical combinations. The gallery devoted to the work of his hands glittered like a fairy palace, and was every day visited by increasing crowds, more particularly of strangers, who were all unqualified in their admiration. In noticing the articles in this class, the place of honour belonged of right to the Messrs Osler, whose far-famed Crystal Fountain was the gem of the transept, and won for itself a European celebrity.

The basin of concrete in which the fountain itself was placed, was some 24 feet in diameter, and afforded a goodly surface for the falling spray. The structure of glass stood 27 feet high, and was formed of columns of glass raised in tiers, the main tier supporting a basin from which jets of water could be made to project, in addition to the main jet at the top. As the structure arose it tapered upward in good proportion, the whole being firm and compact in appearance, and presenting almost a solidity of aspect unusual with glass structures. A central shaft with a slightly "lipped" orifice finished the whole, and from this the water issued in a broad well-spread jet, forming in its descent a lily-like flower before separating into a spray, which in the sun-light glittered and sparkled in harmony with the fountain itself. Alto-

gether this was an unique and magnificent work, and many difficulties of construction had to be overcome before the structure presented itself in its perfect form. The principal shaft was strengthened by means of a rod of iron passing through it, but concealed from observation by the refracting properties of the fans. Upwards of four tons of crystal glass were used in the construction of this fountain. The principal dish was upwards of eight feet in diameter, and weighed previous to cutting nearly a ton. The shafts round the base weighed nearly 50 lbs. each previous to cutting.

The same firm also exhibited a magnificent pair of candelabra, in richly cut glass, each to hold fifteen lights, and standing eight feet high. Her Majesty was the purchaser of these truly regal ornaments, and it was by her gracious permission they were exhibited. The other contents of Messrs. Osler's case were, a large crystal candelabrum, supported by three griffins in dead or frosted glass, the figures of which struck us as being well executed, considering the material; some richly mounted lustres; and several portraits in frosted glass, including those of her Majesty, Prince Albert, and some of the national literary and political celebrities. The collection was handsomely arranged in a large glass case, and afforded every facility for inspection. Next in rotation, but second to none in excellence or beauty, came the beautiful specimens of Mr. Apsley Pellatt. This gentleman, not contented with carrying on his manufacture merely as a trade, has devoted much time and attention to vitreous chemistry, and to the history of glass from the time of its apocryphal origin on the coast of Syria down to the palmy period of Venetian art, and thence to the processes and discoveries of the present day. The results were the beautiful Anglo-Venetian services in gilt glass, which had all the fragile delicacy of form so much prized by connoisseurs—whether they have the imputed quality of detecting poison is a question which it is happily not necessary to discuss at the present day. Mr. Pellatt also

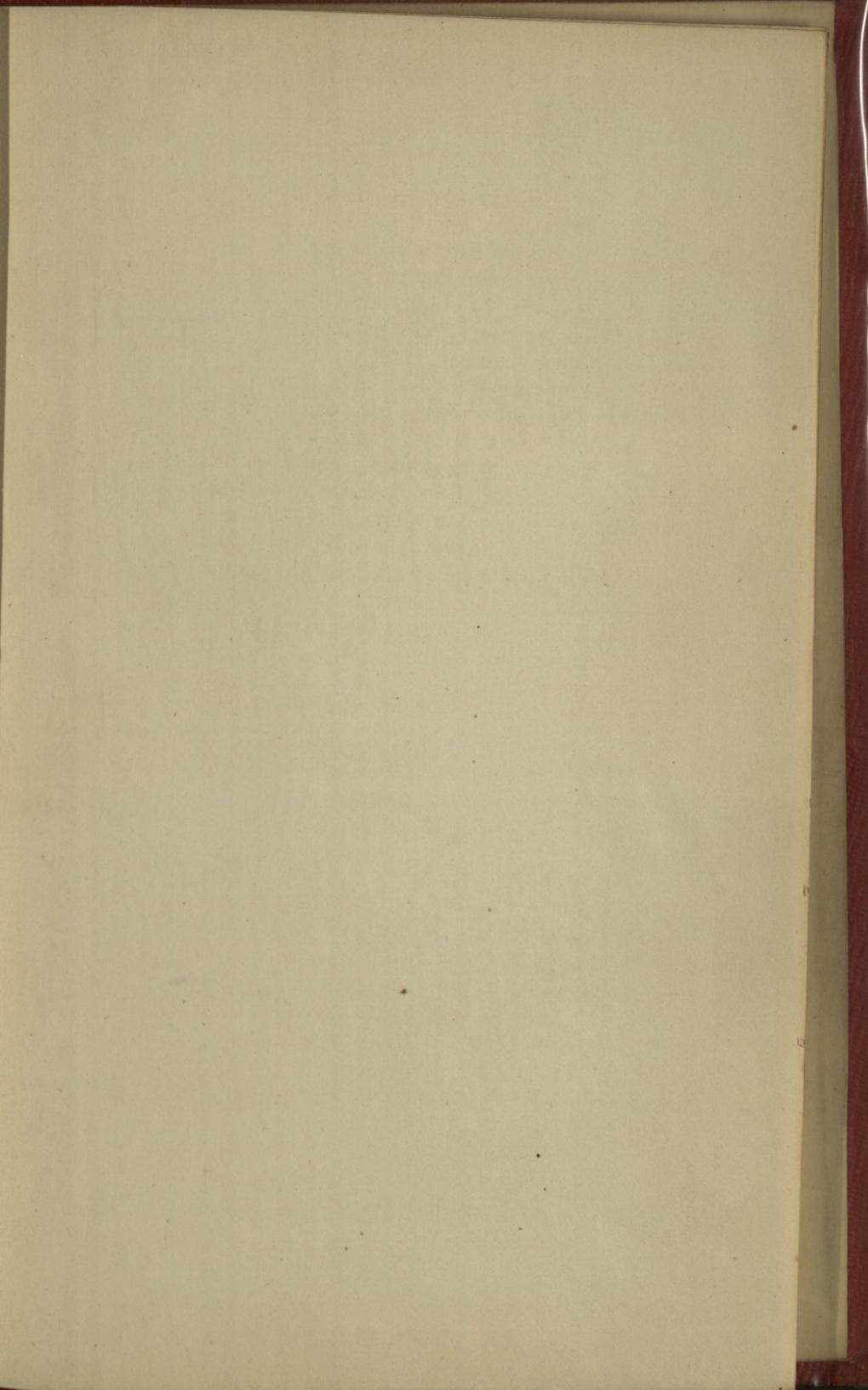
made a bold attempt at restoring the lost Venetian art of frosting glass, and certainly the articles exhibited had a wonderful resemblance to ice, the thing intended to be represented. A curious feature in this collection was what the manufacturer called the "Koh-i-Noor," consisting of several lumps of the purest flint glass, cut diamond-wise, and quite rivalling in brilliancy the two million original down stairs. We are certain that if the largest of these specimens had been placed on the velvet cushion, surrounded by an iron railing, and attended by a reverential policeman, it would have received a much larger meed of public wonder and approbation than the real eastern gem. As a specimen, however, of the purest and most beautifully cut flint glass, it afforded an excellent opportunity for observing the difference between that material and the true diamond. It had the advantage of the gem in entire absence of colour, and produced the prismatic changes with nearly equal effect. But it was deficient in specific gravity, and in that wondrous power of radiating light which gives to the diamond its value, and is its unique peculiarity. The mode of cutting these specimens proved the workmen to be first-rate lapidaries. The other prominent feature in this collection was a magnificent centre chandelier in highly refractive cut glass, which glittered like the valley of diamonds. It was of graceful and original design, and the purity of the glass might at once be detected by contrast with other specimens in the neighbourhood. This magnificent ornament was 24 feet high, and adapted for 80 lights. It was a prominent feature in the Exhibition, being easily seen from the nave below, and reflecting the sun's rays (on fine days) with extraordinary brilliancy. There were other chandeliers in coloured glass, in what the manufacturer pleased to call the Alhambraic style; but the taste of these was questionable, at least in our opinion, and rather marred the effect of the chandeliers, which were constructed solely with a view to prismatic effects. The remainder of the collection consisted

of Etruscan vases ornamented with fine and delicate engraving, some carved incrustations, and numerous articles of lesser importance, but all affording ample reward for a lengthened inspection. Bacchus (Birmingham) appropriately employed himself in the fabrication of wine-cups, glasses, and decanters, in coloured and cased glass. The collection was not large, but well designed and executed. A flower-stand, with vase and cornucopia, had a very pretty effect. The delicate twisted stems of the champagne glasses were novel and chaste, but we fear for their continuity after the third "fire." Harris and Son, of Birmingham, exhibited a large collection of coloured glass, adapted to the various uses of the table. Fine effects of colour were here produced, and many of the shapes possessed novelty and grace. The articles exhibited by these and other manufacturers in coloured glass would seem to intimate that the Bohemians are not long to enjoy their monopoly. Specimens of the beautiful silvered glass lately become so fashionable, and which has formed so ornamental a feature at various public banquets, were exhibited by Messrs. Varnish, of Berners-street. The silvered globes were already familiar to the public, but there were various other articles, such as a chess-table, goblets, curtain-poles, &c., which showed the great adaptability of the material to ornamental purposes. Perry and Co. (New Bond-street), had an immense chandelier for 144 candles, of most elaborate workmanship. The design, however, is rather confused, and the quality of the glass does not appear so pure as is the case with Mr. Pellat's chandeliers. Perhaps it wanted cleaning, as the intricacy of the pattern afforded innumerable receptacles for dust; but, whatever may be the cause, it looked rather dull beside its more brilliant neighbours. There were various smaller collections of glass, among which good taste and good workmanship were generally discernible. There was not, however, sufficient variety to require particular notice.

Messrs. Chance and Co., who supplied the glass for the Exhibition building, were also exhibitors of an article

which, until the removal of the duty, was scarcely ever attempted in this country. One of the specimens of dioptric apparatus for light-houses, in the western nave, was from their manufactory; the other was constructed by Mr. Wilkins, of Long-acre, for the Trinity Board. This optical apparatus was itself a distinguishing feature of our improvement in glass manufacture. Hitherto all the lenses of this order had been supplied from the Continent. The light-houses on our own shores could only be rendered effective by the use of French and German glass. Here we had, however, the most interesting proof that we can make these beautifully arranged lenses and catadioptric zones for ourselves. Fresnel claims the merit of this last improvement, by which a total reflection of all the light is effected; but at the same time it must not be forgotten that the experiments and suggestions of Sir David Brewster, during the investigation of the commissioners appointed to report on the northern lighthouses, were the starting point of the inductive process from which this final deduction was derived. Messrs. Apsley Pellatt and Co. exhibited all the materials employed in the manufacture of flint glass, together with models of the glass-house furnaces, and examples of the purest crystal, particularly as employed for candelabra and chandeliers.

The exhibition of these various objects sufficiently proved the perfection of this branch of manufacture. It is not merely in its transparency and in its freedom from colour that the beauty of flint glass, or crystal, consists—it is in the diamond-like property of sending back the rays to the eye in greater brilliancy than it receives them; and in this respect much of that which was shown in the Exhibition was very perfect. The English were not formerly successful in giving colour to their glass; there was always a want of that brightness which distinguished the works of the Germans, and particularly of the Bohemians. The colours are given in nearly all cases by metallic oxides, and these vary not





Made in Italy

01-15 MIN



EXH. 185 525

38041 8 082919 991362

www.colibrisystem.com

THE
GREAT
EXHIBITION



ILLUSTRATED

1851

